

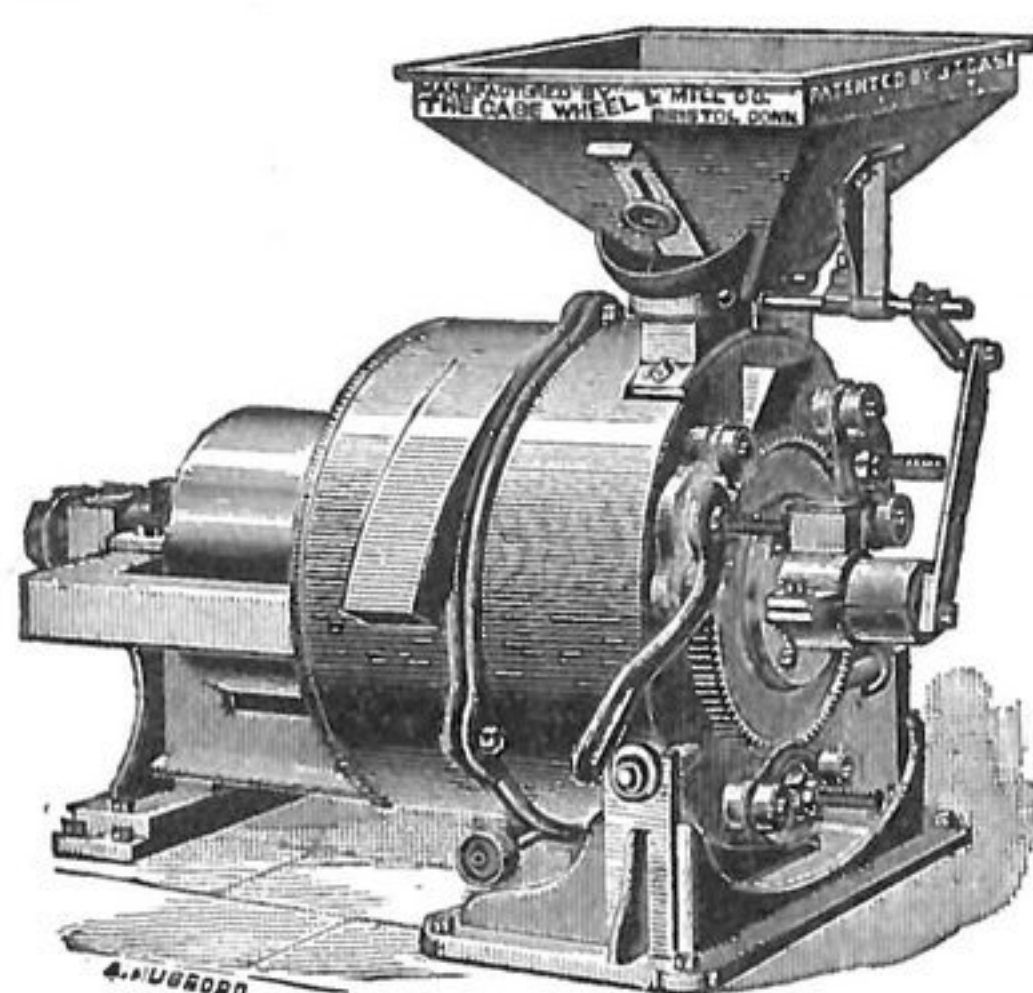
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XX. No. 18.

BUFFALO, N. Y., JULY 1, 1889.

\$1.50 PER YEAR.



VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS.

(J. T. CASE'S PATENT.)

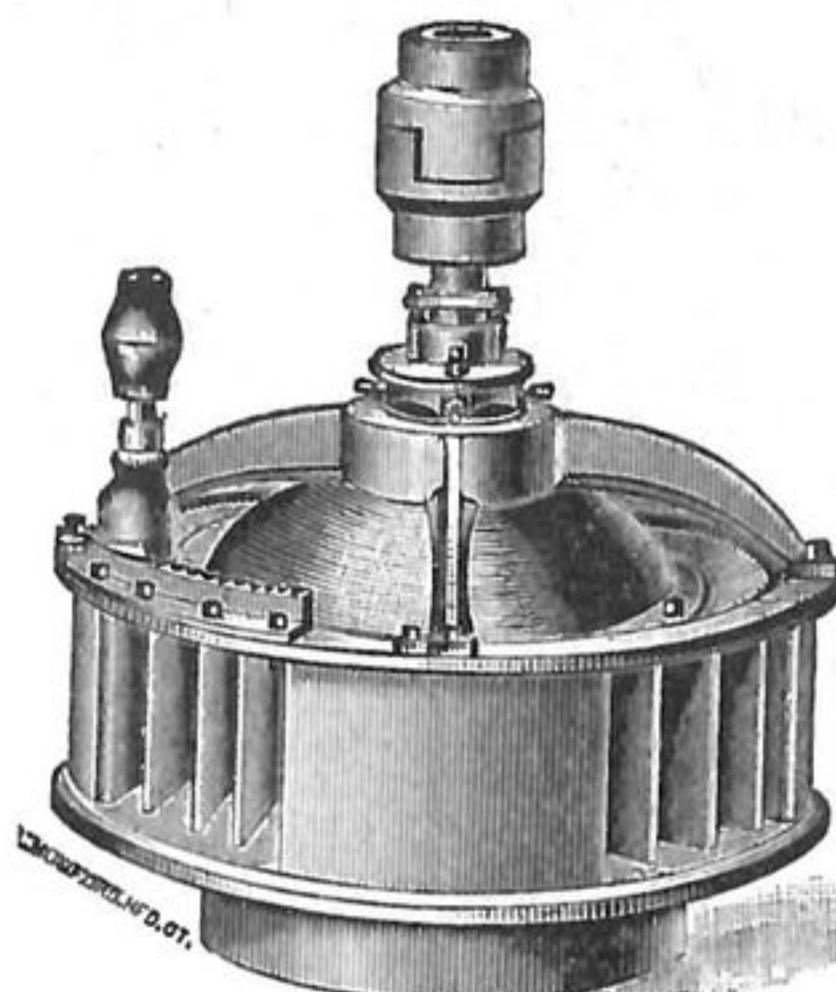
FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.
 "Superior to any mill in use."—GEO. WESTON, Bristol, Conn.
 "The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.
 "We take pleasure in recommending it."—GARLAND, LINCOLN & Co., Worcester, Mass.

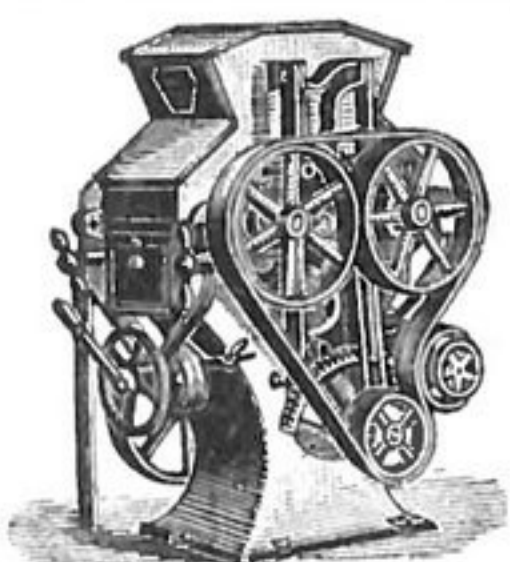
SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

The Improved National Turbine Water Wheel

The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.



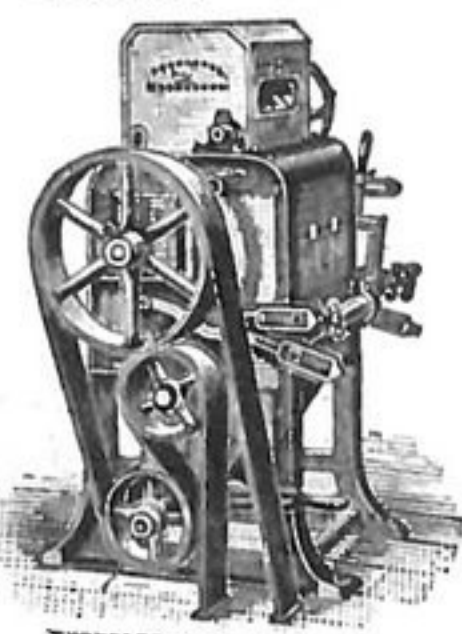
The Case Wheel & Mill Co., Bristol, Conn.



Wheat Roller Mill.

BECAUSE the adjustable roll is not pushed against its mate but is held rigidly to it, which takes out all vibration.
 BECAUSE it does 25 per cent. more work than any other roll.
 BECAUSE the heated air is taken out of the machine.
 BECAUSE it has the best feeder.
 BECAUSE it has no tremor.
 BECAUSE it has the effect of a roll without springs.
 BECAUSE it can be trammed in a quarter of a minute.
 BECAUSE you can tram either end of the four rolls.

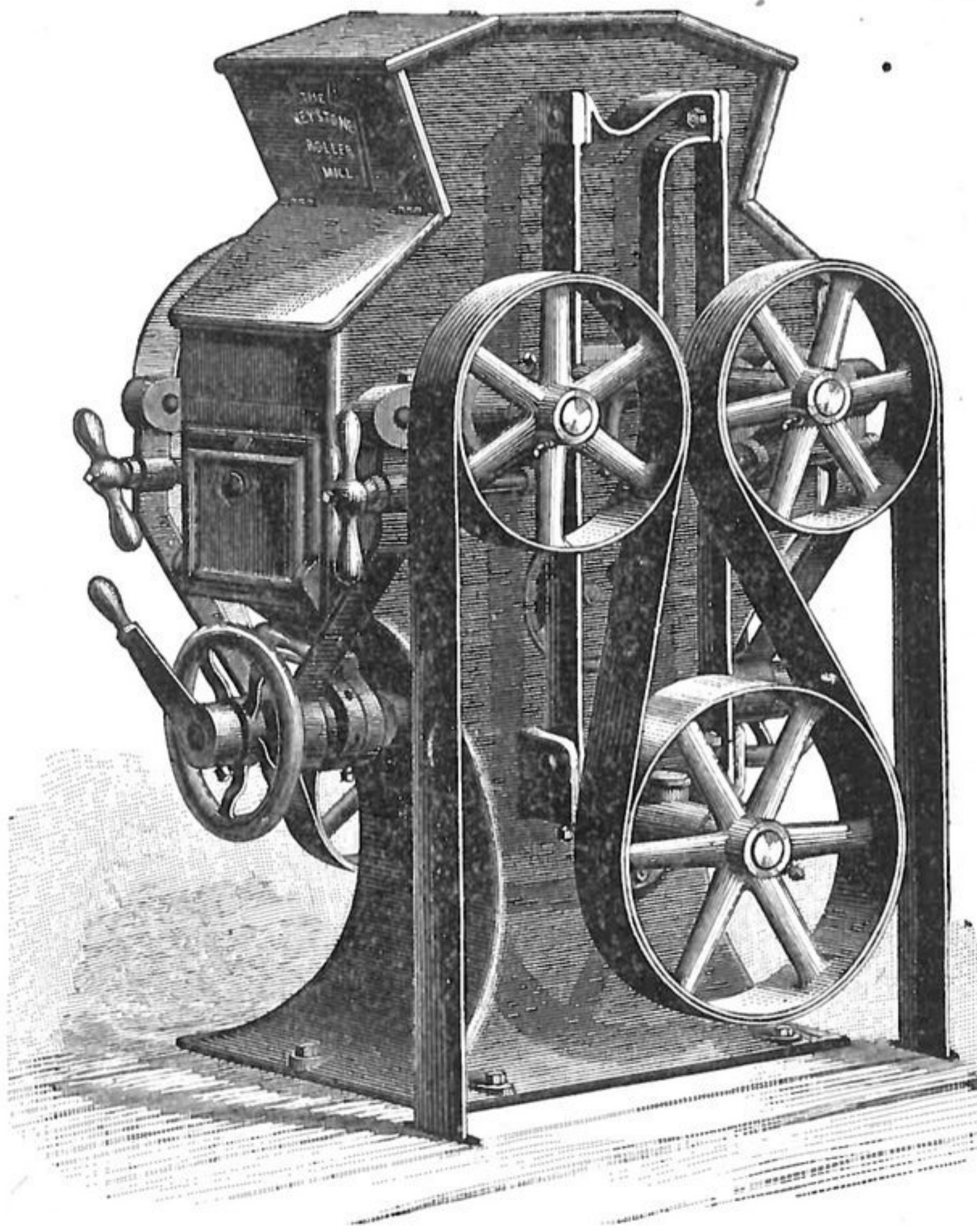
Also ask for prices on the only Noiseless Sieve Scalper, the "Allfree" Improved Purifier, "Climax" Bran Dusters, and "Allfree Flour Packer.



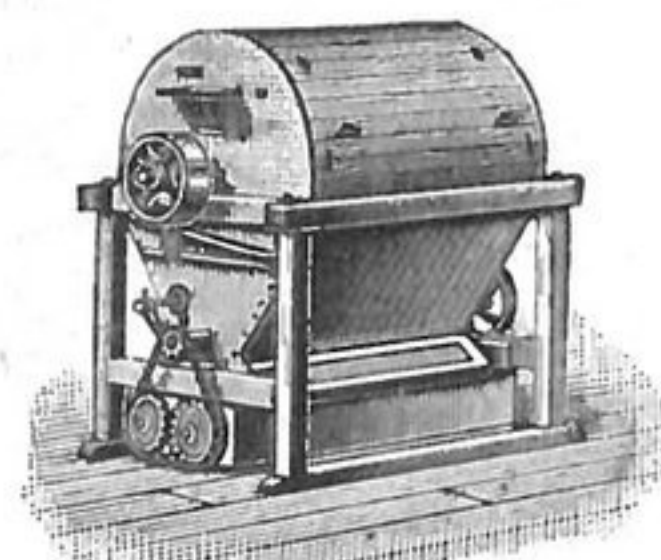
Corn Mill.

THE "KEYSTONE"

WHY IS IT THE BEST ROLLER MILL IN THE MARKET?



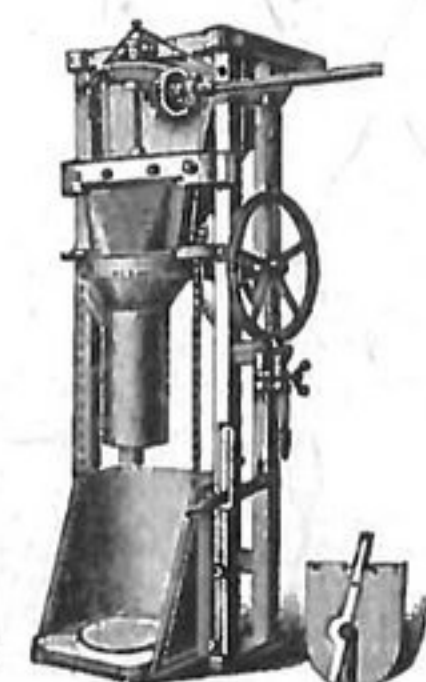
THE KEYSTONE FOUR ROLLER MILL.



Bran Duster.

BECAUSE it runs 25 per cent. lighter than any other roll.
 BECAUSE all bearings are universal and never get out of line.
 BECAUSE you can throw the rolls apart from either side.
 BECAUSE you can set both ends of the roll at the same time with one movement.
 BECAUSE only one spring is used for both ends of rolls.
 BECAUSE there is no slip to the differential.
 BECAUSE no dust escapes from machine, all openings being covered.

Also ask for prices on "Allfree" Centrifugal Reels, "Success" Bolter, Three Reduction Corn Mills, Latest Improved Designs.



Flour Packer.

Complete Outfits for Flour or Corn Meal Mills of any Capacity.

THE J. B. ALLFREE CO., INDIANAPOLIS, IND.

103 & 105 South Pennsylvania Street.

FIRE! FIRE!! FIRE!!!

Our entire works were destroyed by fire on the night of May 10th. Scarcely two hours after the workmen had left their day's work a fierce fire started which in less than two hours left our entire plant as complete a wreck as was ever witnessed. But like the

FABLED PHOENIX OF MYTHOLOGY

We have risen from our own ashes, and have erected a temporary machine shop above the ruins, and have it already furnished with power and new machinery for Re-Grinding and Re-Corrugating Rolls, together with Lathes and other machinery for doing general machine work. We have leased some Large Railroad Shops and an Extensive Wood-Working Factory so that we are now building Case Roller Mills, Purifiers, Inter-Elevator Flour Dressers and all our other machinery nearly as fast as ever.

OUR PATTERNS WERE SAVED

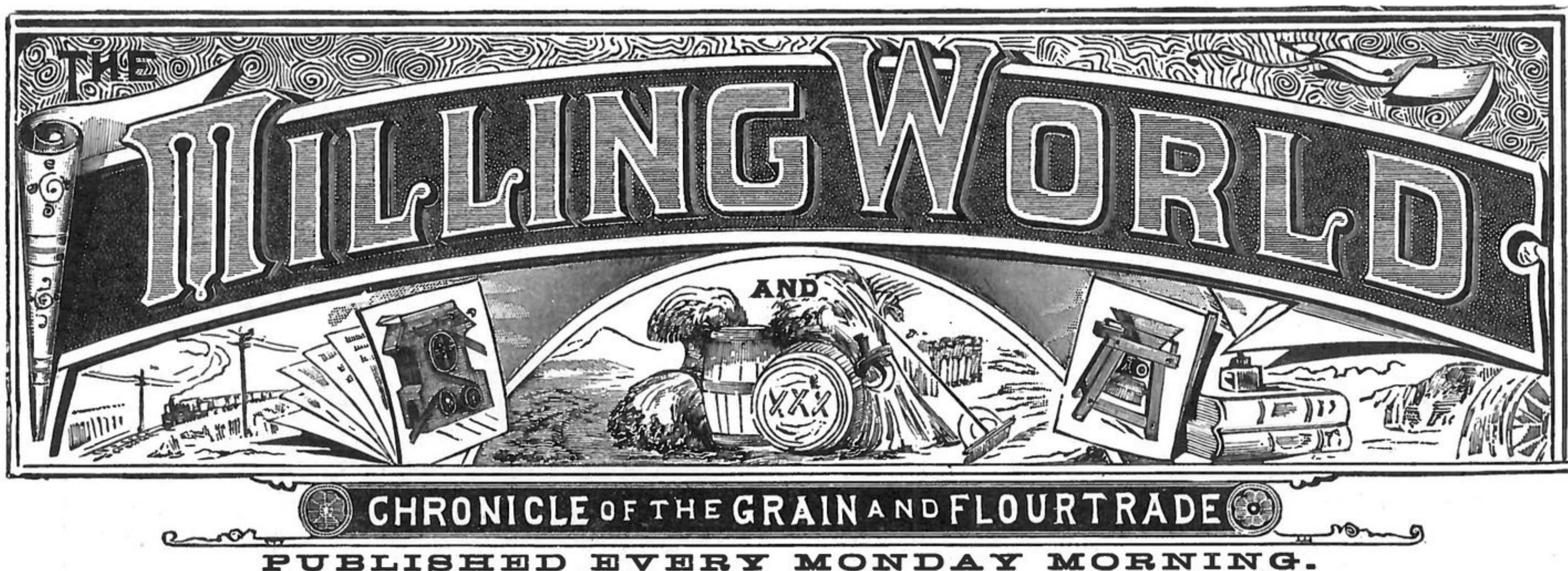
Also all our Plans, Flow Sheets, and the Records of our Business.

NEW AND EXTENSIVE WORKS

Will be erected at once on a large building site just purchased, and we intend to make our shops when completed the most convenient and best equipped plant in the country. We expect soon to get caught up with our orders, and will be in shape to contract for new work at an early date. We hereby tender our sincere thanks to our many friends for their letters of sympathy and good will, and also to those who have been patiently waiting for their machines until we could get in shape to make them. We assure all our friends that we shall still be in the field with Case machinery, and will be glad to answer all inquiries the same as ever, for we are still doing business at the old stand.

THE CASE MFG. CO., COLUMBUS, O.

PLEASE MENTION "THE MILLING WORLD."



VOL. XX. No. 18.

BUFFALO, N. Y., JULY 1, 1889.

\$1.50 PER YEAR.

ACCORDING to recent estimates the wheat crop of Dakota and Minnesota for 1889 promises to run from 70,000,000 to 100,000,000 bushels. In any other country than the United States that would be called a "great," a "phenomenal" crop, but Dakota and Minnesota in particular and the Yankees in general are so accustomed to "big things" that such a magnificent total hardly excites comment. Imagine Australia, or Chili, or Argentine Republic, or any one of a half dozen other "competitors" of the United States turning out such a crop of such wheat! What an ocean of comment it would create! It is a big crop, but Dakota and Minnesota are not inflated over it. They take it as a matter of course, as an every-day performance.

OUR Milwaukee cotemporary, the "United States Miller and The Milling Engineer," says editorially: "There is a painful subject well known to members of the Millers' National Association and the representatives of the milling press, on which we ought perhaps to make some comments, but we prefer to throw the mantle of charity over the matter and consign it to oblivion. Suffice it to say that we believe the light of day has been thrown on some things during the Milwaukee Convention, the effect of which will be to bind together more firmly than ever before the honest, efficient officers and members of the Association and the entire milling press of the United States." Neighbor, do you mean to imply that there are "honest, efficient officers and members," and also officers and members who are not honest and efficient? Or are they all honest and efficient? If they are all honest, no act of theirs should be consigned to oblivion and no mantle of charity or any other sentimental garment is needed to hide their deeds. It would be interesting to know who represents the honesty and the efficiency of that association or what necessity there is for doing the oblivion consignment act. If you refer to the bogus resolution case, rest assured that every candid observer is satisfied on that question, and that no amount of post-mortem "official action" can alter one jot or tittle of the truth.

THE near future promises a good deal of litigation over milling patents in the United States. According to an open letter to the millers of the United States and a document attached thereto from a well-known patent lawyer, both emanating from the Consolidated Roller Mill Company, there is no roller-mill made in the United States, outside of the Gray patent, that is not an infringement of that patent, and that company explicitly declare their intention to proceed to the utmost extent of the law in punishing infringers and in collecting royalties from users of roller-mills. This is a broad scope, and it is doubtful that the Consolidated Roller Mill Company can carry it out. Enormous interests are opposed to them, and there are higher courts than the one upon whose decision they base their proceedings. There may be appeals that may end in the reversal of that decision. It seems almost incredible that at this late day it is provable that one patent on a roller-mill covers all the roller-mills made in the United States, and it will be surprising if that claim is not hereafter hotly and stubbornly

contested, until the final tribunal shall have set upon it the seal of an absolutely irrefragable title by a decision from which no appeal is possible. If the Consolidated Roller Mill Company has really the power to go on and smash the many roller-mill makers of this country, the millers will reap no benefit from the smashing. The establishment of that company's claim would naturally mean an increase in the cost of roller-mills, in addition to the collection of enormous sums of money in royalties extending over many years and involving thousands of millers. Then, again, there is trouble brewing for the users of dust-collectors, and those important and indispensable machines bid fair to equal the roller-mills in their capacity to kick up a legal dust to be exploded at the expense of the milling fraternity. On the millers must come in the end the payment of the law bills.

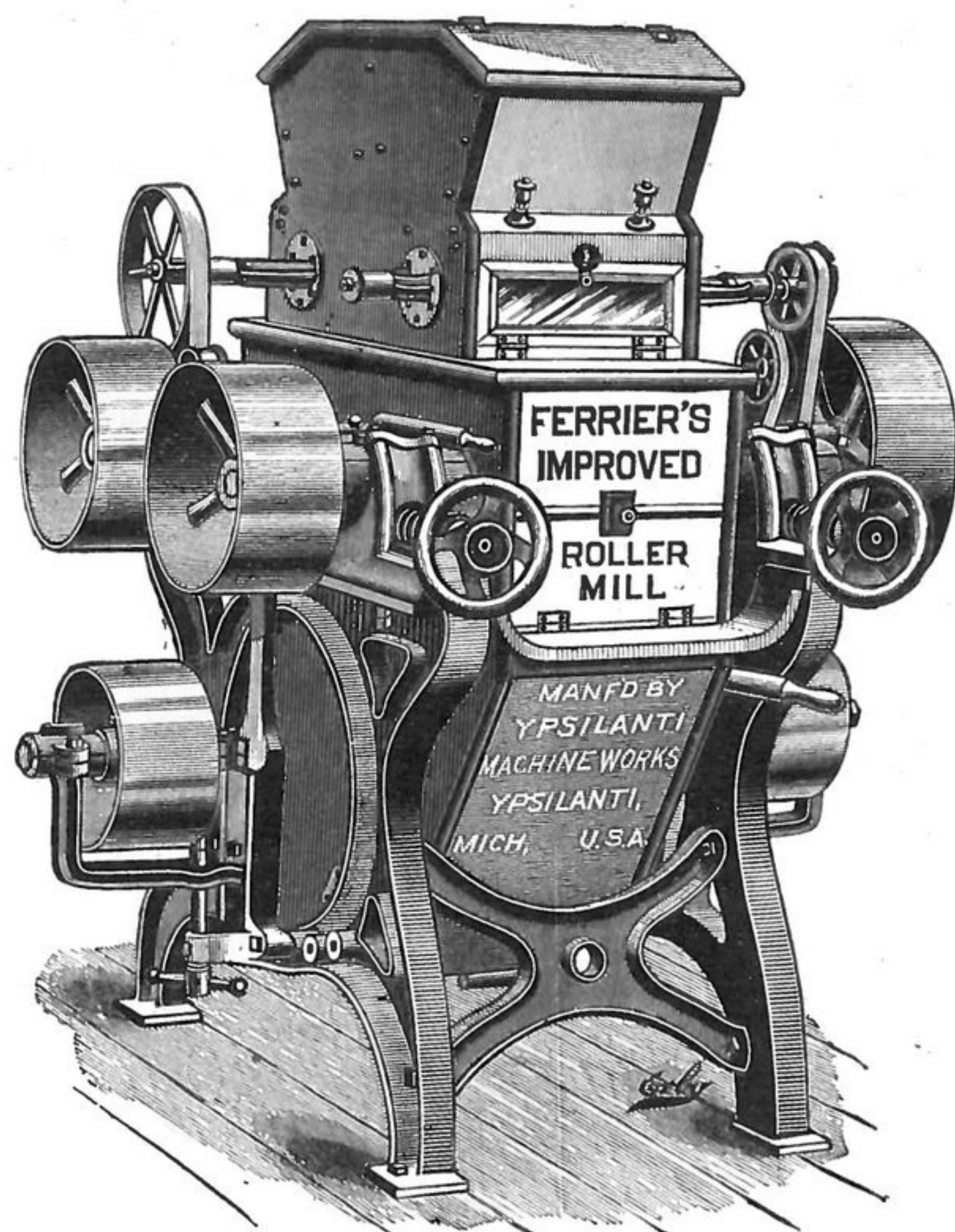
THE junketing Senate committee, that has been "doing" the northern frontier of the United States to investigate the business relations of this country and Canada, will mislead the public in that matter seriously. It is reported that the majority of the members of the committee profess to find a general tendency everywhere towards trade reciprocity with Canada. If those members of that committee will have the candor and take the pains to inquire about the men on the northern border, who are said to favor trade reciprocity, they will find in nine cases out of ten that they are Canadians living on this side the border because their own side does not offer them equal inducements. They will find that they are unnaturalized residents, whose every sentiment is for Canada, no matter what the expense to the United States. It has been stated in the Canadian parliament that there are over 1,500,000 Canadians living in the United States along the northern border. It is to these non-American men the Senate committee has gone! Could any thing more ridiculous be imagined than this quizzing of foreigners, and this representation that reciprocity in trade is generally favored? Why should not these foreigners favor any movement that would render their native country rich at the expense of the United States? If the Senate committee has set out with a reciprocity theory to confirm, it has hit upon the proper method of securing confirmation. If it has set out to discover the drift of American sentiment, it should work on American citizens and not on foreigners who are allowed to live unmolested within our borders, while constantly criticising and ridiculing our institutions, belittling our country, grumbling over our taxes, and otherwise demonstrating their unworthiness to enjoy the advantages of residence in the United States. If the committee is on the wrong track, and it seems to be, it should be called in, paid off, and discharged. The general sentiment among Americans on the northern boundary, lumbermen, salt-producers, farmers, millers, mechanics, and all sorts of laborers, is decidedly averse to the bestowal of any further benefits on Canada, all of which are at the expense of the United States. Not only that, but the sentiment is in favor of restricting even present privileges and benefits, and the Senate Committee would soon discover that fact if it had pursued its work among native and naturalized Americans.

YPSILANTI MACHINE WORKS, YPSILANTI, MICH.

MILL BUILDERS

And Manufacturers of

FLOUR MILL MACHINERY



Sizes of Ferrier's Improved Four-Roller Mills.

6x12	6x15	6x20
9x15	9x18	9x24

YPSILANTI MACHINE WORKS, YPSILANTI, MICH.

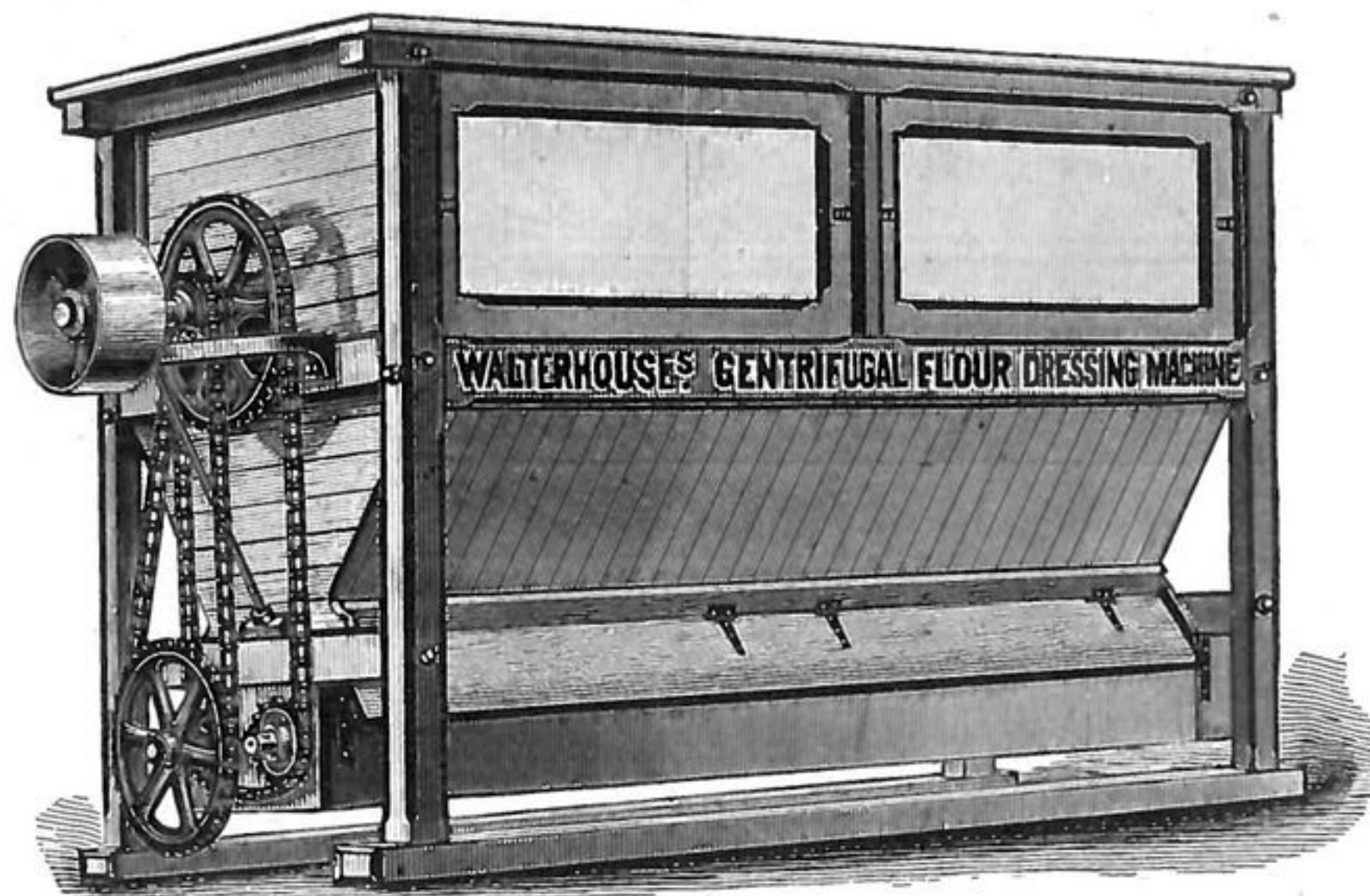
Gentlemen: We have had a line of your "Roller Mills" in use for over two years, and they have given entire satisfaction in every respect. They work like a charm, and their ease of adjustment and solid structure, together with the excellent finish you give them, can but recommend your machines to the milling public.

Yours respectfully,

A. R. DICKINSON & CO.

NASHVILLE, TENN., MAY 3, 1889.

Dealers in Bolting Cloth. Walterhouse's Centrifugal; Walterhouse's Slow-Running Flour Dresser with Inside Cylinder; Plain Round Reels; Scalpers, Bolting Screens, Etc., Etc., Etc.



JOHN ORFF, PROPRIETOR OF
EMPIRE FLOURING MILLS.
FORT WAYNE, IND., APRIL 10, 1889.

YPSILANTI MACHINE WORKS, YPSILANTI, MICH.

Gentlemen: The Centrifugal Reel bought from you some time ago is doing its work complete in every respect. It does a large amount of work, and does it well. Should we make further changes in bolting, shall use more of them. Wishing you success, we remain,

Respectfully,

JOHN ORFF.

OFFICE OF LEXINGTON MILL CO.,
LEXINGTON, MICH., JAN. 22, 1889.

TO YPSILANTI MACHINE WORKS.

Gents: In reply to yours of June 5th, would say that we are well pleased with our mill. It has more than met our expectations. Although it was feared that the six-inch rolls would not prove a success, we find them to be complete in every respect. We are making as fine a flour as there is made in the state, and we guarantee our patent to be equal to Minnesota Patent. The mill has given us no trouble whatever since we started it, and for plan and workmanship, your Mr. G. Walterhouse deserves great credit. If your friends doubt it would be pleased to have them come and see for themselves.

Yours respectfully,

LEXINGTON MILL CO.

Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

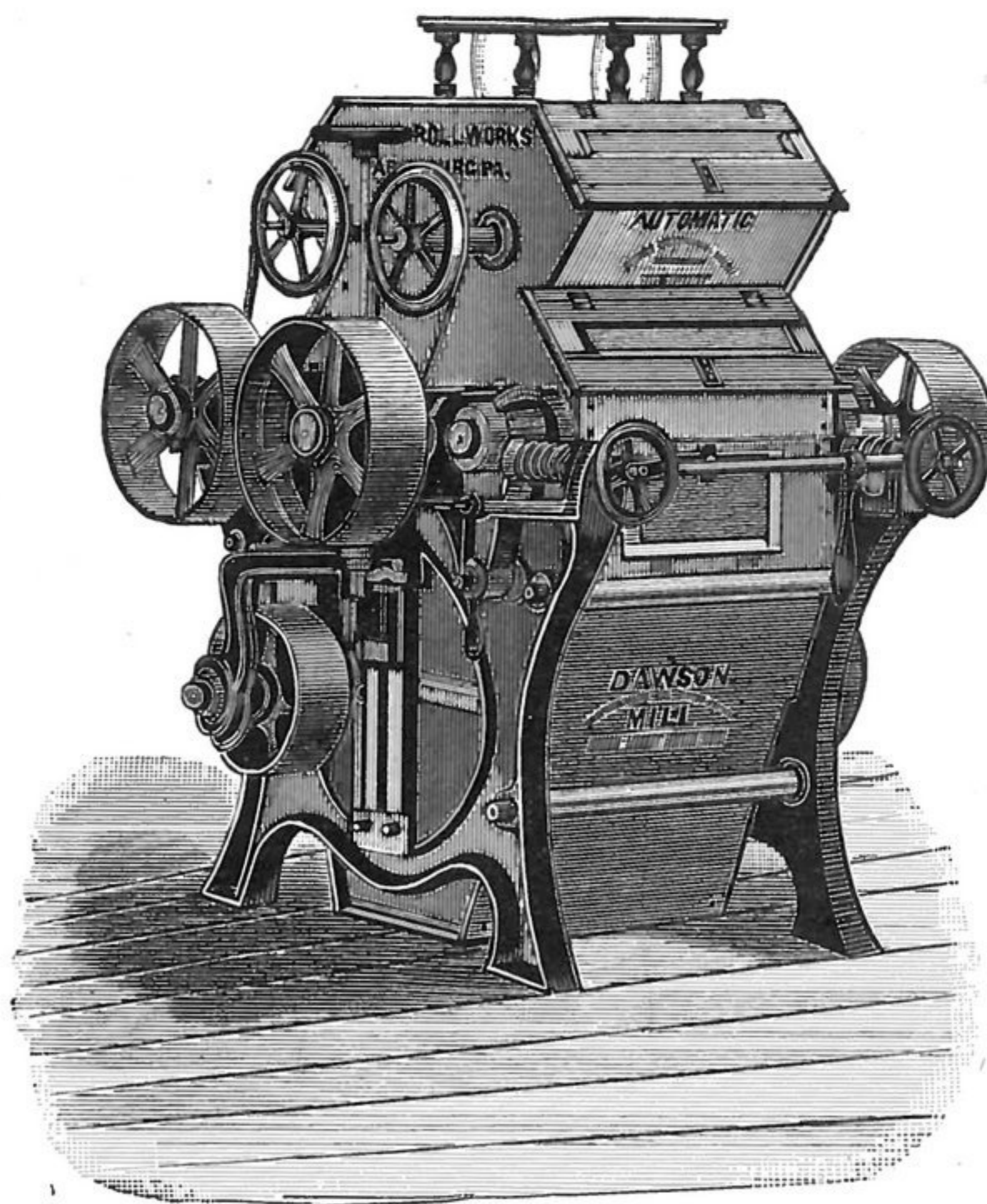
We have a large plant to Re-grind and Re-Corrugate Rolls.

Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.

FOR PRICE LISTS AND CIRCULARS, ADDRESS,

Dawson Roll Works, Harrisburg, Pa.





PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,
Over Bank of Attica.
McFAUL & NOLAN, - - - PROPRIETORS.
THOMAS MC FAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in un-registered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning, to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trades.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

WANTED.

A situation with parties who appreciate good work, with rolls or buhrs on patents. Have the following recommendation from Miller Bros., Forest Grove, Ore., dated Nov. 10, 1887: "To whom it may concern: This is to certify that Peter Provost has been in our employ as head miller, and has given entire satisfaction. We believe him to be a very competent man, and cheerfully recommend him to the milling public." State wages you wish to pay. Address, PETER PROVOST, Menominee, Mich. 18

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

MILL WANTED.

I want to rent a good water power custom mill for a long term of years. For particulars address "W," care of THE MILLING WORLD, Buffalo, N. Y. 16

WANTED.

A miller with some capital to help stock with, to take charge and run my mill. Address LOCK BOX 285, Clearfield, Clearfield county, Pa. 1720

FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

8tf

FLENNIKEN TURBINE CO.,
Dubuque, Iowa.

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.
Two No. 1 Corn Shellers. New.
One No. 2 Purifier. New. Best make. A bargain.
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf

M-I-L-L-E-R-S

Wanting Bolting Cloths should write for discounts on same before purchasing elsewhere to

SAMUEL CAREY,
17 Broadway, New York.

FOR SALE.

Our 4-run mill, water and steam power; water nine months of the year; mill lately fitted up with Aug. Heine System of Bolting. Mill is in first-class repair; also saw-mill on same dam; about thirty acres of land with the property; good stand for a roller mill, fine grain country in Central New York lake region; four miles from Le-high Valley Railroad. Call on or address, MOSS BROS., Waterburgh, Tompkins county, N. Y. 1417

FOR SALE.

A flouring mill at Washington, Tazewell county, Ill., three run of buhrs, good engines and mill complete. Good wheat section and practically no opposition. Present value of milling winter wheat 72 to 75 cents. Coal \$2 per ton. Railroad tracks to mill. Will sell very cheap on easy terms. Apply to or address, P. B. & C. C. MILES, Room 24, Chamber of Commerce, Peoria, Ill. 1417

WANTED.

Agents, a fine memento of Gen. Grant taken by photography four days before his death at Mt. McGregor Cottage, unaware to himself, in all his simplicity, while reading a newspaper with his old silver spectacle on in the early morn of July 19, 1885; the only household memento of the man who made a 25 cent greenback worth 100 cents on the dollar and saved the country after all other commanding generals had failed; surrounding this last picture of the old hero are placed 11 photographs of his entire family and his sons' wives, all the most accurate ever made; these splendid photographs were made by J. T. Lloyd, who projected all the military maps used by Gen. Grant during the war, and who certifies to their accuracy; handsomely printed, with cord attached, ready to hang on the wall, for the nominal price of \$1, and as fine as an oil painting, fit to grace the walls of a palace; agents wanted, to whom exclusive county rights will be given; money refunded on demand if not satisfactory. THE GRANT MEMENTO CO., Box 2256, Boston, Mass. 18

PETER PROVOST'S VALUABLE PATENT FOR SALE.

SOMETHING ENTIRELY NEW. A RARE CHANCE FOR SPECULATION.

No wide-awake manufacturer will deny that this is an age of progression, and that there is some thing new and more useful taking the place of the old, and still there are a few old fogies, who shut their eyes to the progress of art and science and say that patents are all humbugs and imagine every thing is perfect, just as our great-grandfathers thought when they called Fulton "crazy" when he discovered the use of steam. It is so with heating wheat and steaming wheat for cleaning. They say: "Some wheat does not need steaming, Peter Provost." They do not take into consideration the fact that nearly every thing of any value has one day been patented. Had it not been for inventors, we would be in the same state of affairs as when Adam and Eve were without even a suit of clothes. Then, certainly, no sane man can deny that inventors are the founders of improvement, and that it is right they should be protected by patents, securing to them a remunerative reward for their labors. When someone invents new and more useful machines, like Peter Provost's grain-scourer, patented Feb. 26, 1889, and No. 398,538, or tools and implements better than those in use, the wise manufacturer, who possesses that quick perception and sound judgment that eminently qualify him to discriminate between the truly useful implement and that which appears to be such, at once proceeds to investigate the merit and utility of the invention to see whether or not it will pay to invest in its manufacture. I will sell state rights. Address, PETER PROVOST, Menominee, Mich. 1819

ANOTHER such June is not desired by the unfortunate millers operating in the flood-swept valleys and ravines of Pennsylvania and neighboring states. Mills wrecked, washed away, left standing partly off their foundations, and filled with a flour-paste from roof to basement are not pleasant things to contemplate nor profitable things to own. These are what scores of millers have to remind them of the deluge of 1889.

MINNEAPOLIS appears to be getting in her work right along, despite all the talk about no business, no export trade, no market for flour, no profit in trade, no wheat to grind, and nothing in the world to encourage millers to remain in business. Her weekly record shows from 100,000 to 112,700 barrels of flour produced, and as none of the flour is given away or thrown away, or otherwise disposed of at a loss, it is reasonably certain that things are not so bad in the milling line as they have been represented.

THE Pennsylvania, Maryland, Virginia and West Virginia millers were heavy losers by the great floods in early June. Scores of mills were wrecked and hundreds more were flooded. The total loss in those states of buildings, machinery, dams, races, flour and grain must amount to millions of dollars, not taking account of the inconvenience and loss of business. The mills that are shattered will be quite costly to repair, and those that were swept away can be replaced at less expense in many cases, than will be incurred in repairing and cleaning shattered buildings of equal size.

EDITOR Reifsnider, of our esteemed cotemporary, "The St. Louis Miller," announces in the June number of his wide-awake journal that he has engaged Mr. F. M. Tatlow to act as associate editor. We congratulate both gentlemen on their association. Editor Reifsnider is a hustling manager and editor combined, and Editor Tatlow, well-known to the milling fraternity as an author and editor, is a thoroughly posted, practical and intelligent miller, away up in the technics of flour-making and able to put his ideas into suitable form for the instruction of others. With two mills in operation, and with Editor Tatlow to do up the science and technics for his journal, Editor Reifsnider occupies a unique position among the milling journalists of the United States. Success and contentment, happiness, prosperity and ducats to you, Messrs. Reifsnider and Tatlow!

MILLING LITIGATION AHEAD.

Judging from present appearances, the millers of the United States are likely to see some important litigation in the near future. Our readers have been kept informed of the doings of the various litigants, so far as they been made public by the principals. The present indications point to serious and expensive litigation over both dust-collectors and roller-mills. In regard to the roller-mill contest, the aims and intentions of the Consolidated Roller Mill Company are set forth in the following "Open Letter to Millers," sent out by that company from their office in Chicago, Ill., under date of June 6, 1889:

To the Millers of the United States:

We are the owners of a very large number of patents for various improvements in Roller Mills, among which we mention more particularly the following:

W. D. Gray.....	No. 222,895	John Stevens.....	No. 236,643
".....	" 228,525	".....	" 240,252
".....	" 235,761	".....	" 252,705
".....	" 238,677	".....	" 268,567
".....	" 251,217	".....	" 304,468
".....	" 261,337	U. H. Odell, Re-	
".....	" 264,454	issue.....	" 10,139
".....	" 266,488	U. H. Odell.....	" 260,225
".....	" 271,331	".....	" 260,226
".....	" 273,065	".....	" 260,705
".....	" 283,339	".....	" 264,559
".....	" 303,369	".....	" 306,945
".....	" 311,829	".....	" 339,927
".....	" 337,161	D. W. Marmon.....	" 274,508
".....	" 339,162	".....	" 277,307
".....	" 339,163	".....	" 275,335
".....	" 339,164	".....	" 276,440
F. Wegman, Re-		".....	" 281,707
issue.....	" 10,579	Marmon & War-	
F. Wegman.....	" 294,418	ington, Re.....	" 10,493
R. Birkholz.....	" 255,715	issue.....	" 266,490
".....	" 257,647	Marmon & War-	
H. Birkholz.....	" 269,623	ington.....	" 275,055
S. R. Campbell.....	" 247,301	Marmon & War-	
Wescott & Karns.....	" 258,832	ington.....	" 277,525
John Stevens.....	" 221,371	Marmon & War-	
".....	" 225,770	ington.....	" 305,320
".....	" 230,834	Marmon & War-	
".....	" 236,104	ington.....	

Besides a large number of less important patents, which need not be named in this connection. You will observe at a glance that the above list contains all the patents of Gray, Odell, Stevens, Marmon and others, who are universally recognized as the leading milling engineers of this country, and who were the pioneers in the improvement and construction of modern roller mills. We believe these patents effectually cover every valuable feature of the modern roller-mill; and we doubt the possibility of building a successful roller-mill, such a machine as the requirements of the trade demand, without infringing some of them. Four of the leading mill-furnishers of the country, E. P. Allis & Co., of Milwaukee, Wis.; Stilwell & Bierce Mfg. Co., of Dayton, Ohio; The John T. Noye Mfg. Co., of Buffalo, N. Y., and Nordyke & Marmon Co., of Indianapolis, Ind., recognizing the scope and strength of our combination of patents, and desiring to afford their customers absolute security in the use of their roller-mills, have taken out licenses from us, but there remain a large number of unlicensed mill-furnishers, who, with an utter disregard of our rights have appropriated our inventions and are manufacturing and selling roller-mills which grossly infringe our patents.

We propose to establish and maintain our vested rights under these patents, and to that end have brought a number of suits in various Districts of the U. S. Circuit Court, some of which have been carried to a successful conclusion; others are pending, none of which have been decided against us. The first of these suits we will refer to was brought by U. H. Odell *et al.*, against Stout, Mills & Temple in the U. S. Circuit Court for the Southern District of Ohio, before District Judge Sage, and Justice Matthews of the U. S. Supreme Court. The defendants manufactured the "Livingston Roller Mill," and the suit was for infringement of Odell's Re-issue Patent No. 10,139. The patent was sustained and the defendant's machine held to infringe it, and its manufacture was discontinued. The next case brought to a decision was that of The Consolidated Roller Mill Co. vs. The Miller Mfg. Co. *et al.*, in the U. S. Circuit Court for the Northern District of Ohio. The patents sued upon were the Gray Patents No. 222,677. The defendants entered an appearance in the case and at first seemed confident of being able to make a successful defense, but subsequent and more thorough investigation convinced them of the hopelessness of their case, whereupon they admitted the validity of our patents and their infringement of the same, and consented to a decree and perpetual injunction against them, and retired from the business of making roller-mills.

The next case to which we will refer, and the one which has attracted the most attention because five prominent manufacturers of roller-mills are understood to have joined in the defense, which was most stubbornly, thoroughly and

ably conducted, was that of The Consolidated Roller Mill Co., vs. Wm. A. Coombs in the U. S. Circuit Court for the Eastern District of Michigan. Mr. Coombs owns a mill at Coldwater, Mich., in which he was using the "Mawhood Roller Mill," manufactured by The Richmond City Mill Works, of Richmond, Ind., and suit was brought against him for infringement of the Gray Patent No. 222,895, and two other patents of minor importance. It was evident there could be no escape from the charge of infringement provided the Gray Patent was sustained, hence a most vigorous, thorough and determined effort was made to break down his patent and have it declared invalid for the various reasons set up in the defense. We need not go into details, which are accessible to all who care to investigate, but will simply state that the Gray Patent No. 222,895, which relates to the most necessary and valuable adjustment in roller mills, and which we think is more generally infringed than any other, was *broadly and unequivocally sustained in each of its claims*, and the Mawhood machine was held to infringe the same, and a decree for an injunction and reference to a Master in usual form was granted. In discussing this question of infringement, after having passed upon the validity of the patent, the Court used the following language: "In short, we regard the defendant's entire machine as simply a rearrangement of the Gray combination, for the obvious purpose of an attempt to avoid his patent."

We have several other suits pending, which we shall push to a hearing at the earliest possible day. We have not been fighting our battles in the newspapers, but in courts of competent jurisdiction, whose decisions must be respected; neither have we annoyed the millers with threats or proclamations of any sort, but, having established our rights in the courts, we shall now compel a full recognition of them, and we feel confident that your sense of justice and fair dealing will approve of our course. Millers purchasing or using roller-mills that have been or may be hereafter licensed by use have nothing to fear in this connection, but all who purchase or use unlicensed infringing roller-mills do so at their own proper peril.

Very respectfully submitted,

CONSOLIDATED ROLLER MILL CO.

Connected with the above open letter to the millers of the United States is the following communication from Mr. Rodney Mason, the attorney of the Consolidated Roller Mill Company, setting forth some of the legal phases of the situation:

CHICAGO, ILL.

THE CONSOLIDATED ROLLER MILL CO.,

GENTLEMEN: You ask my opinion—1st. As to your rights under the Gray Patent No. 222,895, under which you recently recovered a decree affirming the validity of the patent, and its infringement by the Mawhood Roller Mill, and by Mr. Coombs, the defendant, and, 2nd. As to whether your rights are in any manner affected by bonds of indemnity given by manufacturers to millers using their infringing machines.

As to the first, I reply that you have by that decree, establishing the validity of the patent and its infringement, secured the right to have injunctions on application, at any time after a bill is filed against *any one* who makes, uses or sells an infringing machine, on presenting a copy of the record in that case and proof of infringement. So thorough was the defense made in that case, prepared by able counsel, supplied with unlimited money, after exhaustive examinations of the patent offices of this country and of Europe, and backed by the knowledge of the "Big Five," who united in the defense, that it is in the highest degree improbable that any new defense will ever be produced. Under the circumstances you may expect that the decision of Judge Brown, made after full argument and thorough consideration during the four months while he held the case under advisement, will be accepted in all the U. S. Circuit Courts as conclusive upon the validity, construction and infringement of the patent.

As to the question of infringement by other unlicensed machines, you will remember that three years ago, when I advised you as to the validity and construction of that patent, which opinion has now received judicial confirmation, I was then furnished with exact drawings of the principal roller-mills then in the market, and advised you that every one of them infringed Gray's Patent No. 222,895. My opinion then formed remains unchanged and, having been reviewed since this decision, is not only confirmed, but is extended to include every roller-mill I have since seen or have had distinctly presented by drawings, and now manufactured in the United States. How far you will press your rights to injunctions against those making or using such machines is a matter of expediency which I submit to you. As to whether you are affected by indemnifying bonds given by manufacturers to millers, I answer, in no respect whatever, unless it may be to increase the certainty of your security of recovering any money for profits, damages or costs which you may recover.

Such bonds may give the miller protection fully in case a successful defense is made, and in case of failure, as to the expenses of defense and the money recovery, but no protection whatever against the injunction, which, after all, is the great thing to be looked to in such cases. *The injunction issues, bond or no bond*, and when it is issued the further use of the particular machine must then and there be instantly stopped, and if that stops the mill, then it must stay stopped until some non-infringing machine is supplied to replace it; and that means, in this case, until a licensed machine has been obtained, or somebody invents a machine that does not infringe. When a preliminary injunction is obtained, that runs until final hearing, and if the action is sustained a perpetual injunction issues, which is not suspended by the appeal of the case to the Supreme Court of the United States, and remains in force till the Supreme Court reverses the decree below. What may happen three or four years after the grant of the injunction will not be of much interest to the miller; he can't wait the tardy action of that over-laden Court, which may after all sustain the action of the lower Court.

While on this subject I may as well add that it is a common fallacy that a recovery, with satisfaction of the judgment, in an action against the maker, relieves the user from liability. Not so; the maker only pays for his profits, the user remains liable for his, and both will be enjoined; for no one can obtain the right to use a patented invention without the consent of the patentee, to whom the law and the grant of the United States have given the exclusive right to make, use and vend the invention. This is now the settled law both in England and the United States. It may seem to you that the law is severe, but the patent law was not made for the encouragement and protection of infringers, but of inventors, to whom society owes its great improvement in the current century. To reverse the rule would be to relapse into torpor, decadence and death in the arts. The Supreme Court has repeatedly said that a man's rights under his patent for an invention is as absolute as under a patent for lands, and no one would say that one should lose his right to his house, because some one else saw fit to take possession of it against his will.

Yours very truly,

R. MASON.

STATE CONTROL AND STRIKES.

A. B. SALOM.

Superficial observers and ignorant demagogues in this country should learn a valuable lesson from the great coal and iron strikes that have recently agitated the German Empire. Every time there has been a strike, or boycott, or lockout, or riot, or other serious labor trouble in the United States, these superficial observers and ignorant demagogues have cried for governmental interference. They have demanded legislation to prevent strikes, and their theory has been that strikes may be prevented by calling in the aid of the government to force the employers to yield to all the demands of the employed. Much to their disgust, that entirely simple and effective plan has not yet been adopted, and the agitators are still demanding that the government shall assume extreme paternal powers and take an active part in the management of all the great business interests of the nation. From the head of the order of demagogues down to the most ignorant of the members of that order, the idea prevails that, with the state in possession and control of the coal mines, the iron mines, the forests and the resources of all sorts, disorder would cease, prosperity would prevail, labor would be well paid and constantly employed, and the present misery of workingmen would be permanently decreased.

This is a roseate picture. Upon what basis do the demagogues and fanatics rear so attractive a social and industrial structure? Is there any virtue in governmental control, as distinguished from private control, that will make great industries independent of the laws of supply and demand? Can the government step in and force a nation to use enough of the produce of a given industry to make that industry permanently prosperous? Let the contest between labor and capital in the German coal and iron mines answer. Surely the men who are demanding the paternalization of the government of the United States, on the theory that it would be able to ward off great and disastrous labor troubles, have only to turn to Germany to see that, above all the powers of the most thoroughly paternal government on earth, above all the functions of an autocratic monarch backed by millions of soldiers, there are business laws that

rule independently of proclamations, or commands, or edicts by rulers or governments.

A single fact is worth a million theories opposed to the fact. The chief demagogue of the order of demagogues asserts that, if the coal mines of the United States were controlled by the government, all trouble would disappear. That is theory. Germany owns and controls the German coal mines. German coal miners to the number of nearly 200,000 have been driven by low wages, lack of work, want of food and general distress to demand more wages. It was refused to them. They struck. Paternal government failed to ward off the strike or to settle it. That is fact. Set that theory and that fact together, and what satisfaction can even the average demagogue in the United States draw from them? Most certainly, unless he be hopelessly mad, he can not make it appear that the laborer under the paternal government has any better surroundings than the laborer under the non-paternal government. Nor can he believe that the paternal government is better qualified to create and maintain prosperous business conditions than the non-paternal government. The paternal government may, indeed, drive the strikers back to work and compel them to accept the grievous hours and conditions of labor and the distressfully low wages, but the non-paternal government could not do that.

It is perfectly plain to all men, except the self-blinded and self-maddened demagogues, that the government, instead of being asked or allowed to control business enterprises and natural resources, should be kept as far as possible from any thing like control. State management does not imply freedom from distress, nor prosperity, nor lack of trouble, as the German strike shows. State management has never yet made a success of railroad or telegraph interests, as both Great Britain and Germany show. State management has never added, and it never can or will add, one iota to the prosperity of any given interest. State control to prevent strikes means but one thing, and that is the use of State force to drive strikers back to work, at the bayonet's point, and on the government's terms. Paternalism in government is a blind, cruel, brutal force, which can deal only with men as men. It has no more control over the currents of the business world, over the productive and consumptive capacity of the nation, over the wants and likes of citizens and over human appetites than it has over the tides of the ocean, the laws of gravitation and the movements of the planets. It is a force that expends itself on man alone as a citizen. It is a force that, once instituted in a nation, grows to alarming proportions. It only intensifies the evils it is supposed to be able to cure. It is a force which the American laborer should abhor, from which he should strive to keep his government free. It safeguards capital and rank in preference to labor. It favors the few against the many. If there be one thing more than any other which bodes ill to American labor, that thing is paternalism adopted and practiced to its logical outcome by the government of the United States.

COTEMPORARY COMMENT.

It is no use for millers to hang on to their old-fashioned reel-scalpers and hexagonal reels with the vain hope that they are all right. They are all wrong and must go out if your mill would be kept abreast of the times. The power alone it takes to drive them is enough alone to condemn them. And the difference between the products of the well-conducted round-reel mill, which has sieve-scalpers, and the equally well-conducted hexagonal reel mill, having reel-scalpers, is enough in favor of the former to convince any intelligent man who is able to furnish his mill with the improved reels and scalper to do so immediately.—*St. Louis "Miller."*

The prospect of a crop of 520,000,000 to 525,000,000 bushels of wheat in this country may be regarded at first glance as something discouraging to the producing interest. With this supply the chances of exorbitant prices may be out of the question, but the prices of wheat are now very reasonable, and the new crop will begin to move with smaller supplies in the central markets than known for years. At pres-

ent figures the competitors of American wheat in foreign markets realize only small profits. The fact must not be lost sight of that these competitors are not in a position to dictate prices as in the past two years. The crop of Russia is damaged considerably, and the supply from India will be smaller than usual. England, France and Germany will probably have good crops, but they are importing countries and will require fair quantities. It is best for America, if circumstances finally warrant it, to admit that we have a large crop of wheat, that the quality is good, better than in any other exporting country, just what millers and consumers in importing countries require and must have.—*New York "Produce Exchange Reporter."*

How very like old-time proceedings reads the report of the recent convention. One might imagine the convention a sort of primary political gathering where every fellow who thinks he has a prior claim to the suffrages of the constituency is at liberty to damn his rival out of breath.—*Indianapolis "Millstone."*

PULLEY COVERING.

Users of power all recognize that in the transmission of power by belts there is always more or less loss from the belt slipping on the pulley. This varies with circumstances, the brightly polished pulley showing where most of the slipping is. This slipping wears the belt, and it goes without saying that if the belt slips there is a loss of power, the engines making revolutions that are not effective on the machinery, while in many manufacturing establishments



besides the loss of power the jerking motion of the machinery from slipping belts breaks fabrics and disarranges machinery and work generally. Many devices have been put on the market to remedy this evil, but few of which have stood the test required. If resins or thick oils are used as a preventive, they either harden or rot the belt, and their use has long been abandoned by well-informed manufacturers. A temporary device is the tightening of belts, but this heats and wears the journals, with a consequent expense, and does not remedy the trouble, while all users of power recognize the fact that slack belts, when it is practicable to use them, are more satisfactory than tight ones for many reasons. It will be seen from this that the desirable thing to remedy this trouble is a covering which will prevent the slipping effectively, without damage to belt or machinery, that will allow of slack belts, that can be put on the face of a pulley without the use of rivets or the removal of the pulley from the shaft and, better still, the belt from the pulley. All this and more is claimed for the covering now being put on the market by the National Pulley Covering Company, of Baltimore, Md., who control numerous patents on pulley covering. As every one knows, cork is a substance which it is impossible to wear smooth, and their covering is made from cork which, when ground to a fine powder, is mixed with linseed oil and after being subjected to enormous pressure, is put on to a heavy backing of canvas. On this canvas is laid a cement, which is soluble in water and admits of the easy application of the covering to the face of a pulley without removing the belt from the pulley or the pulley from the shafting, and is so powerful that when once set it

is impossible to remove the covering except by the use of a cold-chisel. This covering has met with the approval of the very largest users of power in every industry in this country, the company having in its possession voluntary testimonials from thousands of those who have used it. It has been officially adopted by the Government in the Navy Yard, Treasury and Printing Office. Tests which were made in the latter place showed that the shafting made 35 revolutions per minute more than before it had been applied and fully bearing out the claims made by the company. Flour-millers and lumber workers of every description, who probably have more trouble through slipping belts than any other industries, endorsed this covering when it was first introduced and have been large consumers of it ever since. The directions for applying this covering, which are issued by the company, are so simple that any mechanic can apply it with complete success, and only a trial is needed to convince one of its utility.

MILLING PATENTS.

Among the patents granted June 18, 1889, are the following:

Rosia W. Welch, Baltimore, Md., No. 405,288, a wheat-cleaning machine.

Wm. W. Lockwood and C. M. Bickford, Freeport, Kans., No. 405,315, a grain-meter.

Lyman Smith, Kansas City, Mo., No. 405,331, a pneumatic grain-conveying apparatus.

Wm. G. McLaughlin, Springfield, Mo., No. 405,370, a scale-beam indicating the weight, price, or number of bushels in a quantity of grain.

Jas. E. Busenbarrick, Robinson, Kans., No. 405,462, a grain-weighing apparatus.

Wm. Klostermann, Young America, Minn., No. 405,486, a middlings-purifier, and No. 405,487, a middlings-purifier.

O. C. Ritter, Springfield, Mo., No. 405,506, a process of milling wheat, consisting essentially in crushing or grinding the wheat in one operation between two corrugated rolls running at high differential speed, using fine corrugations for the slow roll, with coarser for the fast, bolting out the finished flour, separating the middlings in two grades and tailing off the finished bran, regrinding said grades of middlings on separate machines, rebolting the middlings-chop on separate scalpings to tail off the "fluff" or feed-product contained therein, and rebolting these valuable portions of the middlings with the first-break flour in straight-grade work or on a separate reel.

Robert Wilson, Grubville, Mo., No. 405,518, a bag-fastener.

Edward G. Felthousen, Buffalo, N. Y., No. 405,543, a lubricator, one-half assigned to Chas. A. Sherwood, same place.

Eugene M. Louis, Havana, Ill., No. 405,573, a process of manufacturing dextrine corn-malt, consisting (1) in first soaking and sprouting the grain, then crushing in a moist state to a coarse meal, then steaming, and subsequently drying by heat, cooling, and grinding, and finally drying by exposure to the air, these steps occurring in the order mentioned. And (2) in a process for producing corn-malt, the crushing in a moist state of the malted grain and the subsequent steaming thereof in a closed space prior to drying and grinding.

Silas S. Shaver, Clintonville, Wis., No. 405,611, a grain-scourer.

John B. Cornwall, Moline, Ill., No. 405,660, a sieve.

Orville M. Morse, Jackson, Mich., No. 405,674, a dust-collector.

THE "green midge" reported to be doing considerable damage to wheat in Indiana and Illinois is identified as the "Siphonophora avenae" of the scientists. It is a demoniac bug, small, but terribly prolific, bringing forth new broods in a few days. The insects colonize on the wheat-stalks and suck all the sap from the growing grain. The stalks turn brown and the fields have the appearance of having been swept and scorched by fire. The weather conditions this season have been favorable to the development of this pest. It has caused the wheat-farmers a good deal of uneasiness.

SINGLE-WHEAT AND MIXED-WHEAT FLOURS.

Says our esteemed British cotemporary, the London, England, "British Baker, Confectioner and Purveyor," of June 1: Prejudice is ever a great evil when it interferes, as it so often does, with the adjustment of industrial or trade difficulties. We have already in these columns, and we hope with all due delicacy, indicated our belief that in many cases the British miller does not so fully regard the true interests of the British baker as he might and should do. As our readers will remember, we recently dilated on the subject of single-wheat milling, whereon Professor Jago produced an excellent and eminently practical paper. This the milling press here has for the most part received with impatient criticism and seems to have generally arrived at the conviction that such an idea as that of giving the baker a particular and fixed sort of flour is a thing that won't do at all. It does not suit the convenience of millers generally; and this being so, of course the baker must go without the desideratum. Well, it is somewhat gratifying to us to note, among our transatlantic exchanges, that our cotemporary, THE MILLING WORLD, very fully sustains our views and confirms them in a most emphatic manner. The Buffalo, N. Y., milling organ writes:

"Professor William Jago, of Brighton, England, tells the British millers and bakers some very strong truths in his recent paper on 'Single-Wheat Milling,' which he read at the Liverpool meeting of the bakers and confectioners. His hearers, with true British conservatism, 'jumped onto' him and attempted to ridicule his position, but the facts he gave are not to be overthrown by ridicule or unreason. He is right, and the bakers and confectioners and millers of Great Britain know that he is right. The millers and bakers of the United States, Austria-Hungary and other countries in which high attainments in milling are admitted know that he is right. Accurate knowledge of the varying chemical composition of different flours, of inherent differences in wheat from different parts of the world, and of the behavior of single and mixed flours in doughing and baking gives Professor Jago the right to speak with positiveness, and he speaks for 'single-wheat milling,' the only logical, reasonable, scientific milling possible. His opponents, speaking purely from the pocket-book standpoint, of course, do not speak wisely, logically or reasonably, however positively they may speak. Mixed-wheat milling has been the curse of British flour-makers and bread-bakers from the start, and it will continue to be their bane so long as they refuse to work on a reasonable method. Probably from the standpoint of the American flour-makers it is quite as well that the British millers should go on trying to make good, strong, reliable flour out of a mixture of poor, weak, unsound and dubious wheat, as by that means they will perpetuate the market in Great Britain for enormous quantities of fine, pure, strong, homogeneous, reliable, single-wheat flour. So long as the British Ephraim sticks to his idols, so long the Yankee miller will stick to the British market."

This is certainly definite and quite *ad rem*. It is, in effect, precisely what we have ourselves been advancing in these columns for a long while past. Mixed-wheat flour has, no doubt, been a bane of and plague to the British baker to a very great extent; but what does the British miller care, if only he can find the baker to buy this changeful and perplexing flour, milled from a blend of we know not how many varieties of wheat from all points of the compass? Now that the truth is beginning to transpire, now that intelligence is stirring among the members of the great baking trade, and that questions are being asked not pleasing to the ears of some millers, we may perhaps expect a change for the better, and that some practical consideration will be extended to the baker, by whom alone the miller lives and has his being in the United Kingdom.

A POSSIBLE RIVAL OF CORN.

Recently there has been an addition made to the food-plants produced in this country, which in time may prove a strong rival of Indian corn. The new plant is called sweet cassava. It seems to have been proved beyond question that on the southern border of the United States there are considerable areas admirably adapted to growing this remarkable plant as a staple article of home consumption, while in Florida its manufacture into starch, tapioca and glucose ought to become a leading industry. The cassava plant is closely related to the ricinus, or castor-bean, which it re-

sembles in general appearance. It is a handsomer plant, not having the coarse, rank aspect of ricinus. It does not bear much seed, and it is not propagated from seed, but from cuttings of the larger stems. As to the quantity of cassava-root that may be obtained from an acre of ground, no satisfactory estimates have yet been made. It must vary greatly under various conditions. A single plant produced 50 pounds of roots, the top measuring 8 feet in height and 10 feet in breadth. It had been highly manured. A person who has given special attention to the cassava thinks that from 10 to 50 tons of roots of one year's growth ought to be obtained from an acre of land, according to its quality. This is little better than conjecture, but certainly the plant yields enormously under certain conditions. The uses to which cassava may be put are almost too numerous to mention. By manufacture it may be converted, with scarcely any waste, into starch, tapioca and glucose. In the tropics cassava flour is used exclusively for making a large wafer or cracker, which is quite palatable and keeps without injury for months. Florida housewives have used it for making bread, puddings, custards, fritters and jellies, and as a vegetable it is used in all ways in which Irish potatoes are used. It is as a food for stock that cassava has excited most interest. It is greatly relished by cattle, horses, hogs and poultry and seems to be a very wholesome article of food. The great tubers, sometimes three or four feet in length, may be taken from the ground at any time of the year and used as food for man or beast.

THE well-known mineralogist, Dr. Bormann, of Eisnach, in Saxony, has discovered among some prehistoric human remains what appears to be a pair of millstones. The stones in question are granite, have a diameter of about 12 inches and a thickness of four inches. They are bored through the center.

AN English writer warns English farmers that the British Government contemplates giving India a bounty on wheat that will depress agriculture at home still further.

The W. F. Cochrane Roller Mills Supply Company, of Dundas, Ont., has made an assignment to Alexander Bruce. The paid-in capital was \$50,000, invested in plant and machinery. W. F. Cochrane, the inventor, was killed in a railroad accident last January, and V. E. Fuller, the president, failed soon after.

SPECIAL NOTICES.**LIBERAL OFFER.**

With a view of increasing our subscription list, we will send a copy of R. J. Abernathy's new book, "The True Short System" (Price \$2.00) and "The Milling World" for one year at the very low price of Two Dollars. Renewal will be treated same way. This offer will only continue for a limited time. Now is your chance. Send in your subscriptions at once.

Address,

THE MILLING WORLD, BUFFALO, N. Y.

BOLTING CLOTH.

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TOLEDO MILL PICKS AND STONE TOOL MFG. CO.

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Made of the best double-refined English cast steel. All work guaranteed. For terms and warranty, address, GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, Ohio. Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF

Shafting, Pulleys, Hangers, Coupling, Machine and Jobbing, Etc., Etc.



CURIOUS RESULTS.—The Mannesmann process of manufacturing steel tubes by rolling is now well known, and by it it is easy to form a cylinder closed at both ends, in which case the interior of the tube, on cutting into it, is found to be full of some gas. This gas has recently been analyzed, with the result that it was found to consist of 99 per cent. of hydrogen and 1 per cent. of nitrogen. The steel which was made was found to have the following composition in parts per 100: Carbon .42; silicon .25; phosphorus .022; sulphur .01; manganese .23; with traces of copper.

GENERAL NOTES.

It is estimated that there are at least 5 American citizens who are worth \$100,000,000 each; 5 worth \$50,000,000 each; 10 worth \$30,000,000 each; 10 worth \$20,000,000 each; 50 worth \$10,000,000 each; 100 worth \$5,000,000 each; 200 worth \$3,000,000 each; 500 worth \$1,000,000 each; and 1,000 worth \$500,000 each.

POINTS IN MILLING.

POETS sing that "the mill will never grind with the water that is past." Practical millers understand, also, that the mill can never grind with the steam that has been blown out into space unnecessarily and wastefully. The waste of steam represents a much greater waste of money than the waste of water, because the steam is water that has been operated upon by coal and labor, in a more or less costly plant.

NEVER waste your motive power, especially if it be steam. Waste is possible everywhere along the line of processes in making flour. Indeed, it seems to be unavoidable in some places, but it should be reduced to the lowest possible percentage in such times as the present, when a few cents more on the price of a barrel of flour, or a few cents less in the cost of making, may mean success and prosperity, and the waste of the few cents may mean business disaster. If the waste begins in the large item of motive power, it is likely to continue throughout the line of processes. Look out for waste, at all times, at every step, and everywhere, in men, material, processes and finished product. Extra care against waste means more profit in milling.

AN ordinary silk reel is run at a low rate of rotation to maintain its principle, which is one of gravity. The meshes of silk are kept open by coarse material falling thereon from the position to which it is lifted by internal revolving ribs and the draught thus caused. Reels are inefficient when used to re-dress fine flour, because the material is too soft to clean the silk mesh of itself, consequently it sticks and hinders the sifting process. The drawback to centrifugals when used to dress meal containing fine particles of bran is that the action of beaters abrades those particles and sometimes forces them through the silk. The mesh of the silk in centrifugals is kept open by the slight fan action of beaters forcing material against the silk.

THE difference in the amount of pressure on the footstep of a millstone spindle, when the lower stone is the runner, from that which exists when the upper stone is the runner, would be less in the latter than in the former by about two-thirds its entire weight, because when the top stone is grinding, two-thirds of its weight must be borne by the material passing through, and the power necessary to drive it round merely be the same as would turn the under runner, minus its weight on the footstep.

THE objection to automatic feeds for roller-mills is that they allow an increase of feed to the rollers when an increase

comes into the hopper without putting on an increase of pressure to the rollers. An arrangement for throwing rolls apart automatically when the feed stops is contrived by finely balanced levers and weights. By one maker a balanced lever is placed outside the hopper, its position depending on the feed. The lever is brought in or out of contact with a short spindle. By turning the latter the ends of the levers carrying the bearings of the rolls are thrown apart, the clutch on the axle of the feed-rolls is disconnected from its pulley, the feed-roll is stopped, while the loose pulley continues to revolve and act on a little bell attached at the end of the feed-roll axle, which at every revolution is touched by a small hammer and rings until the machine is stopped or fresh feed is supplied.

OVER-COMPETITION may bring bankruptcy to the mill-furnishers or not, but it certainly will not improve the average of the mills built under too high competitive pressure. Every case in which the eager bidders cut prices for machinery equipment too low will surely end in an outfit that is not a perfect fit. If there is no profit left in a job, look out for scamping and skimping somewhere or almost everywhere. When the over-eager bidder secures the job at ruinous figures, he is likely to begin at once to plan little economies here and there, the use of a lower grade of materials, the employment of less labor, less care in carrying out details perfectly, all of which may help to bring the total cost within his bid, but which certainly can not result in a mill such as the owner designed to build. If the present cutting continues, the day may come when an owner, wishing to secure a really reliable mill, will be obliged to advertise for the highest instead of the lowest bidders.

I HAVE seen several bad cases of over-competition mills lately. One was a particularly bad case. The whole concern from top to bottom showed the bad effects of trying to make \$5,000 pay for work that was really worth \$6,000. The man who got the job had to give away the \$1,000, if he gave a mill as good as was called for, or else he had to scamp the \$1,000, or as much as he dared to of it, on the work as a whole. In this case the owner would have made money by paying the extra \$1,000, which would have secured him a perfect outfit, at all events. He sees it now, but it is too late. He has saved \$1,000 in first cost, but he has practically thrown away nearly all his \$5,000 in general results. Moral: Do not listen to the competing bidder who professes his willingness to ruin himself to build you a good mill for less than cost. In the end he will probably prove to be the dearest bidder who approaches you.

DON'T let your flour run below grade. Don't let your offal run too rich. Feeding a mill beyond its capacity will make the offal too rich. Feeding too light will make the flour below grade. Watch all the time, and you will be able to tell when your work is bringing dollars to your pocket, and when it is sending the dollars to some one's else pocket.

The July issue of the *Scribner's Magazine* is a Midsummer Fiction number, containing seven complete short stories, four of them richly illustrated by such artists as Frederic Remington, Robert Blum, and Chester Loomis, and an unusually exciting instalment of Mr. Stevenson's serial, "The Master of Ballantrae," the illustration of which, from a drawing by William Hole, is the frontispiece of the number. There are also included the second article in the new Electrical Series, and interesting Poems. "How the Derby was Won," is a Kentucky story by Harrison Robertson. "The Rock of Beranger," by T. R. Sullivan, is a story of comedy and sentiment. The illustrations by Chester Loomis are among the richest which have appeared in this magazine. George A. Hubbard, the author of "The End of the Beginning," contributes a very strong character-study entitled "The Governor." There is a striking railway sketch by John R. Spears, entitled "The Story of a Lost Car." In a quieter vein is Miss Margaret Crosby's "Copeland Collection." There is also a bright comedietta, "From Four to Six," by Annie Elliot, and a short city sketch by H. H. Boyesen, called "The Two Mollies." The Electric Series is continued by Charles L. Buckingham, with "The Telegraph of To-day." The poems of the issue are contributed by Graham R. Tomson, Charles Edwin Markham, D. C. Scott, R. H. Stoddart, E. S. Martin and H. P. Kimball.

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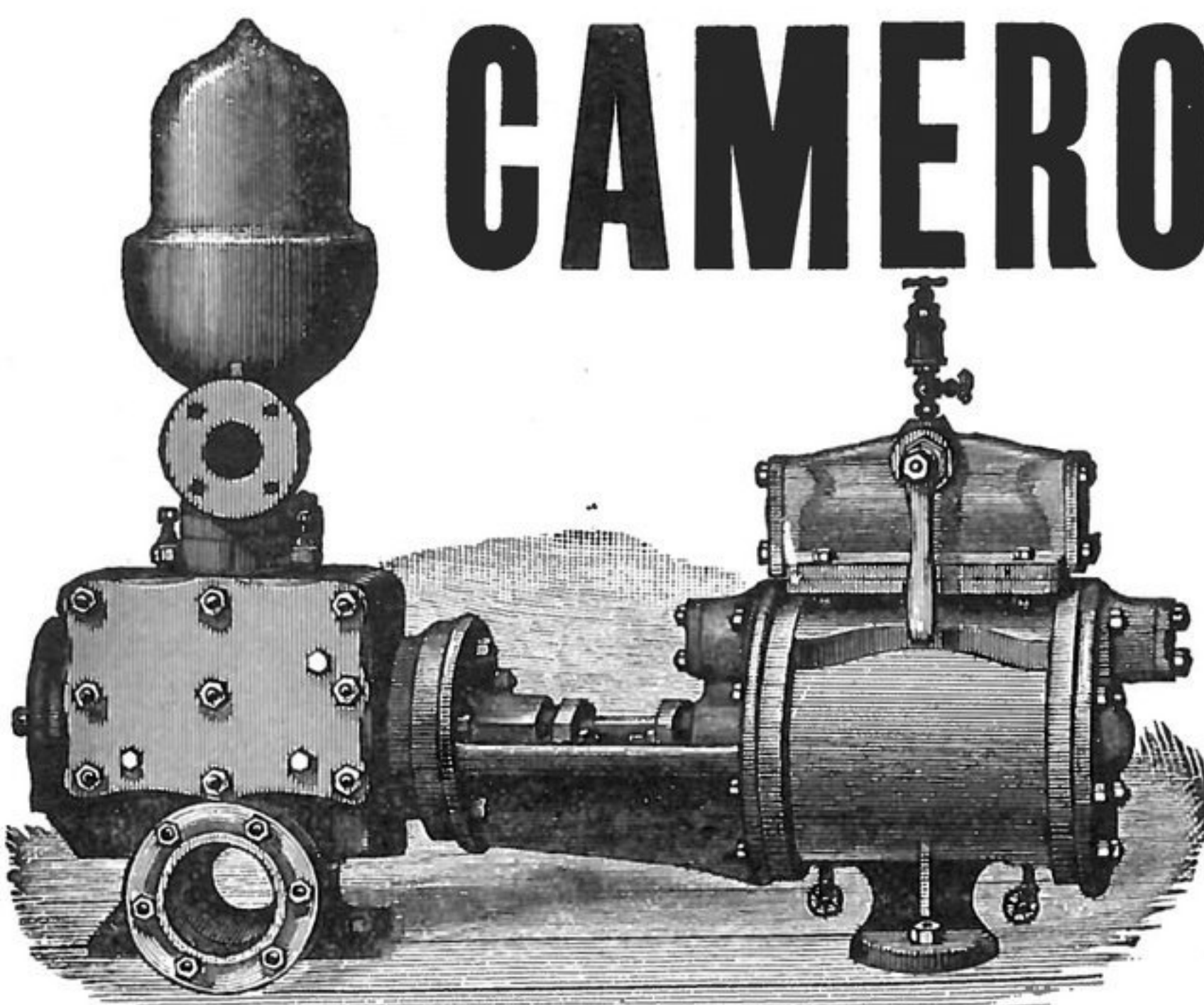
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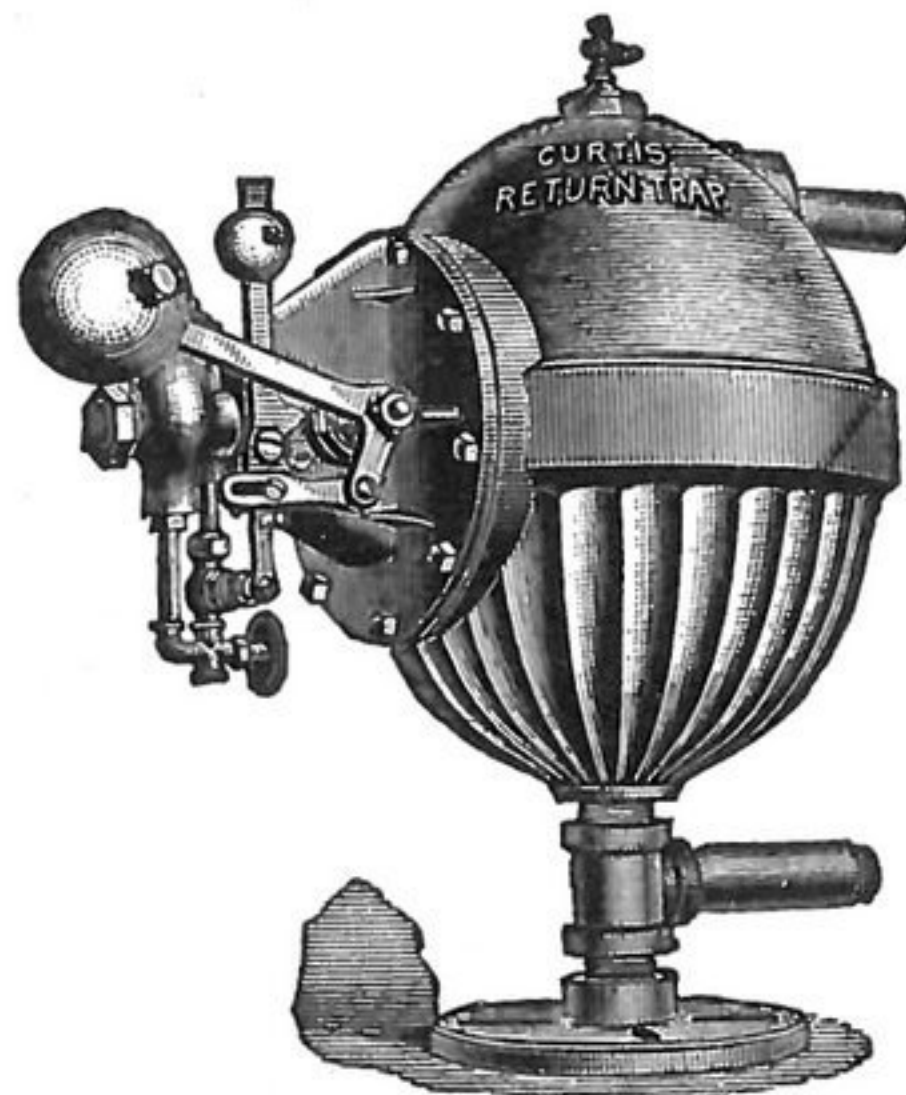
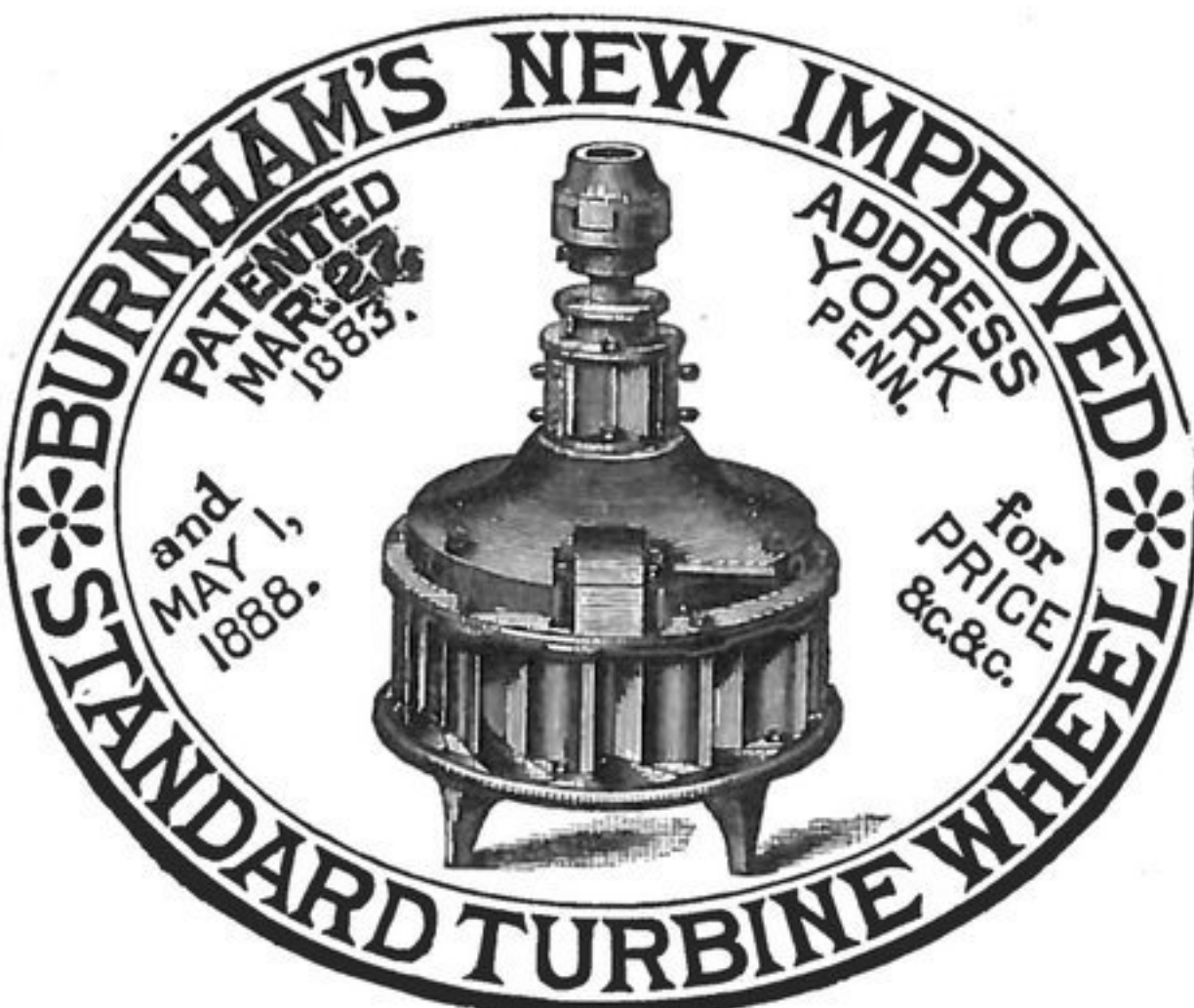
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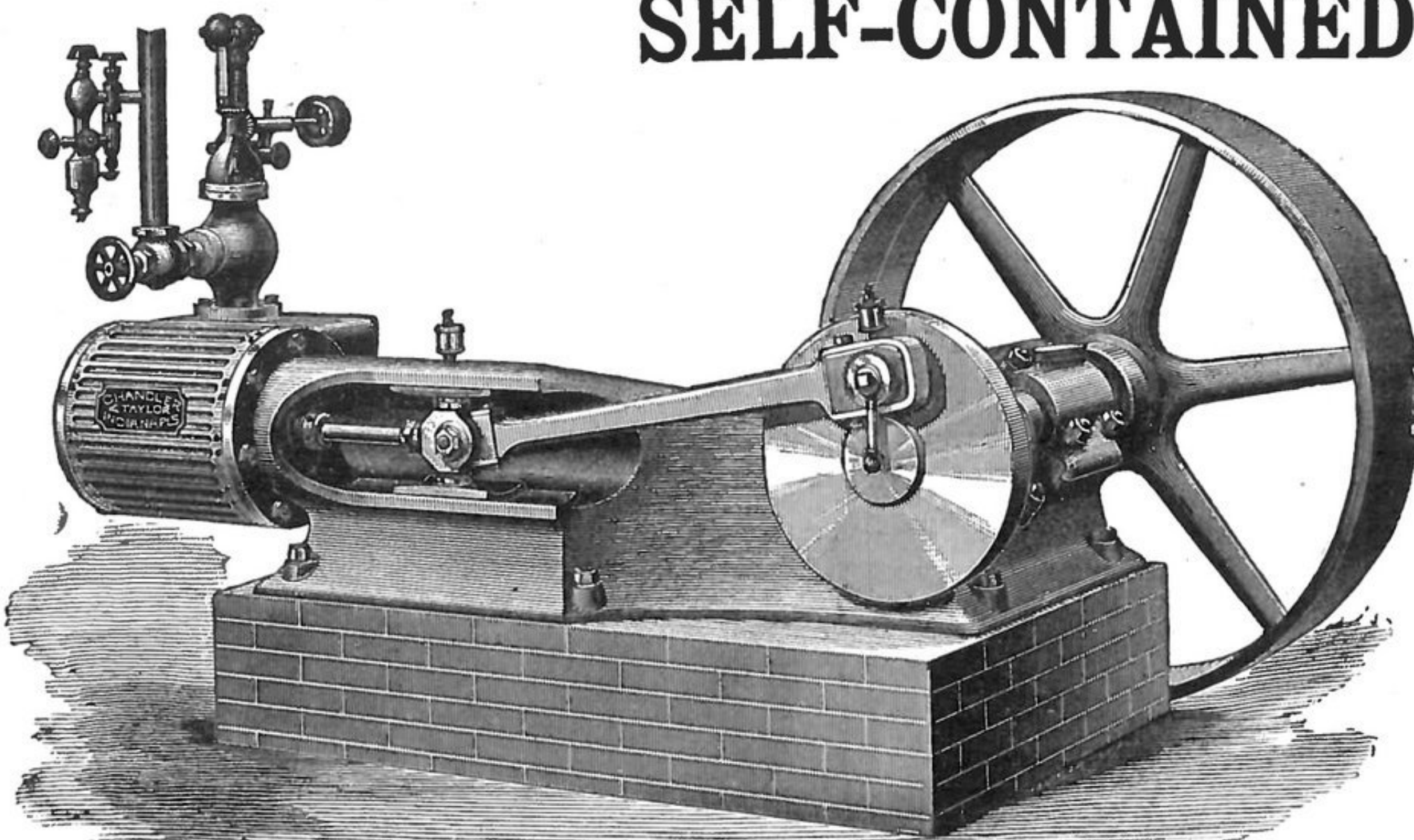
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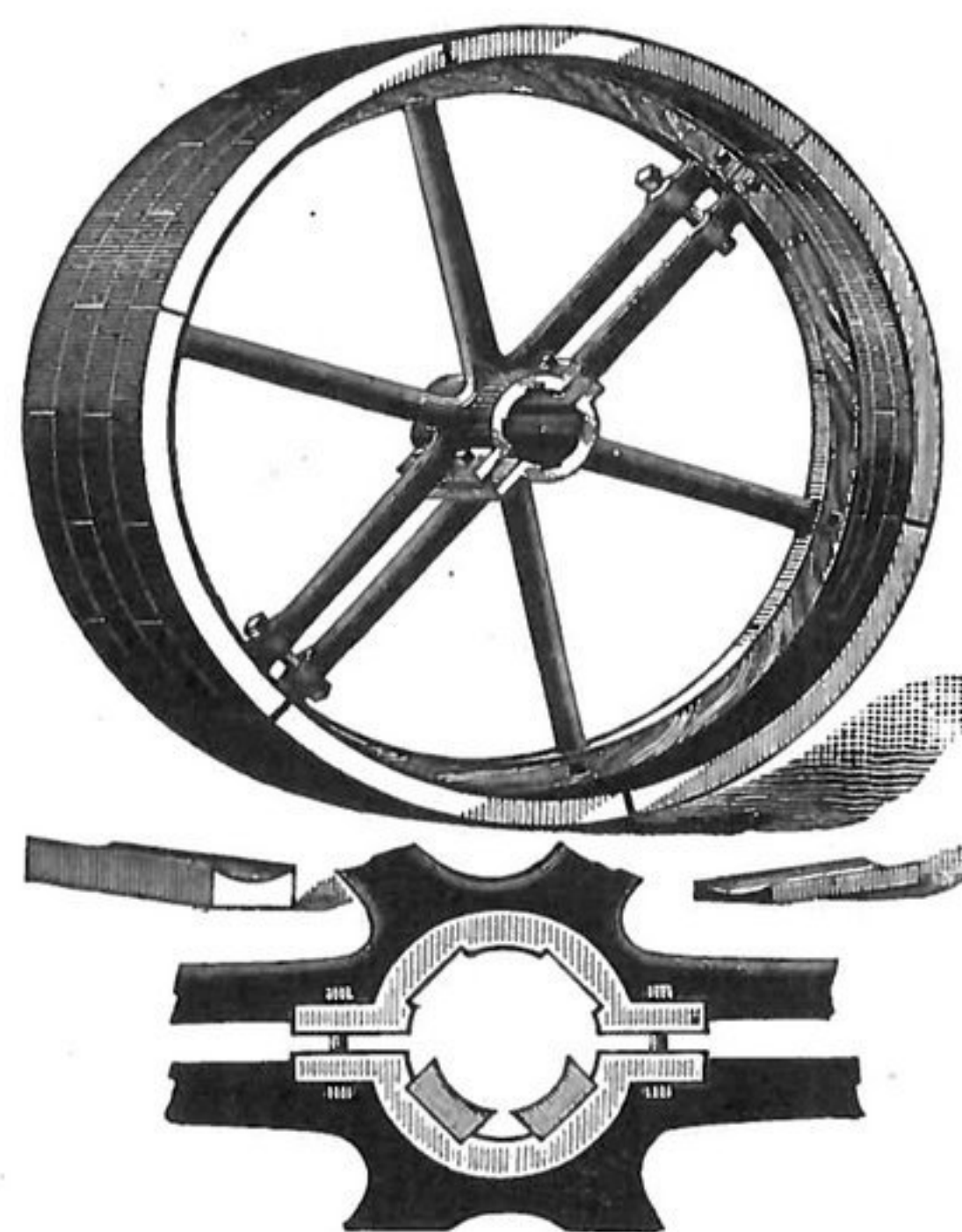
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Elkins, W. Va., men built a flour-mill.
 Austin, Ark., receives 2 new grist-mills.
 W. Isett's mill, Spruce Creek, Pa., flooded.
 Berryville, Ark., men project a flour-mill.
 The Steelton Pa., mill was flood-damaged.
 The Roger Station, Pa., mill flood-damaged.
 P. Cumbad, Geneva, Ala., built a grist mill.
 The Mapletown, Pa., grist-mill flood-wrecked.
 The Bellefonte, Pa., mills lost stock by water.
 Doner's mill, near Morris, Pa., flood-wrecked.
 Wilbar Bros., Gordon, Tex., built a grist-mill.
 Lowsher's mill, Bellwood, Pa., flood-damaged.
 Mr. Gaston, Sylacauga, Ala., built a grist-mill.
 Folmar & Sons, Troy, Ala., build a grist-mill.
 S. Haggerty's mill, Medara, Pa., flood-wrecked.
 I. N. O'Brien, miller, Chanute, Kans., sold out.
 Chas R. Baxton, miller, Waterford, Va., is dead.
 G. F. Smallwood, miller, Oatlands, Va., sold out.
 J. P. Felt's mill, Emporium, Pa., flood-damaged.
 J. A. Crawford's mill, Arch spring, Pa., flooded.
 Doon & Bowers' grist mill, Natick, Mass., burned.
 S. Hatfield's mill, Alexandria, Pa., flood-wrecked.
 The Dysart Mill, near Tipton, Pa., flood-wrecked.
 Runkle Bros., Mt. Airy, Md., build a hominy mill.
 W. H. King, Bowman, Ga., enlarges his flour mill.
 Mr. Catlet, Prairie Grove, Ark., remodels to rolls.
 Six mills on Clover Creek, Pa., lost dams by flood.
 L. Anderson's flour-mill, Meadow Gap, Pa., burned.
 J. E. Parker, Moscow, Ky., improves his grist-mill.
 A. Marks, flour-mill, Unionville Center, O., sold out.
 T. Henderson's mill, at Union Furnace, Pa., flooded.
 M. Haines, Weston Mills, Pa., lost mill-race in flood.
 J. Berger's mill, Tyrone, Pa., flooded; damage small.
 B. F. Isenberg, Huntingdon, Pa., lost \$1,000 by flood.
 The Lewistown, Pa., flour-mills lost heavily by flood.
 Clark's elevator, Papillion, Neb., burned; loss \$20,000.
 Baker's flour-mill, Greentown, O., burned; loss \$7,000.
 Talmadge Bros., Athens, Ga., build a large flour-mill.
 Smith Bros. & Negley, Zion, Ky., improve grist-mill.
 J. A. Weister, Cove Gap, Pa., lost mill-dam by flood.
 B. F. Fonce, Mill Creek, Pa., lost \$5,000 by the floods.
 Fisher & Miller, Huntingdon, Pa., lost \$1,500 by flood.
 Foust Bros., millers, Tipton, Pa., lost slightly by flood.
 The Creswells Mills, Petersburg, Pa., lost stock by flood.
 K. B. Fearl's flour-mill, Johnstown, Pa., flood-wrecked.
 T. Robb's elevator, Wadena, Minn., burned; loss \$7,500.
 Clark & Bros., millers, Faulkland, Del., now Jas. Clark.
 Geo. M. Creswell, Petersburg, Pa., lost heavily by flood.
 Morton Bros., Dykesville, La., want corn-mill machines.
 The old furnace mill, near Bellwood, Pa., flood-wrecked.
 The Huntingdon, Pa., mills lost heavily by the June floods.
 Gunn & Ashcroft, Sulphur Springs, Tex., remodel to rolls.
 H. H. Beck & Co.'s flour-mill, Reno, Tex., burned; rebuild.
 H. A. Naylor's grist-mill, New Oxford, Pa., flood-damaged.
 T. W. Shartzler, miller, Middletown, Pa., lost \$500 by flood.
 Philips & Altman's mill, Alexandria, Pa., lost \$700 by flood.
 The Mercersburg, Pa., Roller Mills, lost \$100 by June floods.
 J. T. McKenzie & Son, Bardstown, Ky., enlarged flour-mill.
 Joshua Cole's custom mill, Watsontown, Pa., flood-wrecked.
 S. N. Nesbit & Bro., Nesbit, S. C., want flour-mill machinery.
 J. W. Reynolds' flour-mill, Fort Jones, Cal., damaged by fire.
 Foust & Son's mill, Mill Creek, Pa., flood-wrecked; loss \$5,000.
 A. D. Ryder's grist-mill, Mercersburg, Pa., lost stock by flood.
 W. H. Gaskin, St. Matthews, S. C., wants grist-mill machinery.
 Simmons & Son's feed-mill, Los Angeles, Cal., damaged by fire.
 Robinson & McFarland, Water Valley, Miss., build a grist-mill.
 Barclay & Bro's grist-mill, Sinnemahoning, Pa., flood-damaged.
 A. Hassenger, miller, near Beavertown, Pa., lost \$3,000 by flood.
 France & Harvey, millers, Saranac, Mich., now France & Huhn.
 W. S. Justice, Warsaw, Va., sold grist-mill to Mrs. J. W. Carter.
 H. Coconough, East Texas, Ky., is building a 40-barrel roller mill.
 W. M. Jordan and others, Aiken, S. C., propose to build a grist-mill.
 The Henry Milling Co., Huntingdon, Pa., lost quite heavily by the flood.
 W. B. Crawford, New Birmingham, Tex., wants grist-mill machinery.
 D. L. Cunningham, Williamston, Ky., started a 50-barrel roller flouring-mill.
 Henderson, Liddell & Co., Camden, Ala., want machinery to put in a new mill.
 H. Sampsel, Centerville, Pa., lost his mill and other property by flood; loss \$2,000.
 Schnure & Son's Isle of Que Mills, Selinsgrove, Pa., lost some stock by June floods.

J. A. Davidson, Gibsonville, N. C., want flour and corn-meal making machinery.
 Macon, Ga., men will build a grist-mill on a site recently bought at Hawkinsville, Ga.
 A. L. Stephens' Bald Eagle Flour Mills, near Tyrone, Pa., lost heavily by the June flood.
 The "Wheelers," Fulton, Ky., build a 125-barrel roller flour-mill. A. C. Caldwell has points.
 Jos. Gray's mill and house, on Lewis Creek, near Harbor Mills, Pa., were flood-wrecked.
 J. F. McLain's mill, Harbor Mill, Pa., was damaged considerably by the great June flood.
 Geo. Babylon, Frizellburg, Md., has put new machinery in his Meadow Branch flouring-mill.
 B. F. Turner, Barnesville, Ga., is forming a \$10,000 stock company to build a large flour-mill.
 Clearfield, Lock Haven and Williamsport, Pa., grist and flour mills lost heavily by the flood.
 Jarboro & Campbell, Springfield, Ky., have completed their new 75-barrel roller flouring-mill.
 J. Hoffer's mill and the Paxton Mills, Harrisburgh, Pa., were flooded and damaged more or less.
 S. M. Stout, Covington, Ky., proposes to buy the Swope flouring-mill at Owenton, Ky., and add new machinery.
 The Johnstown, Pa., Milling Co.'s buildings were not wrecked by the flood, but they lost considerable stock by wetting.
 Graybill & Co., Rodgers & Co. and Spanogle & Yeager, millers, Lewistown, Pa., all suffered serious damage from the floods.
 The Cambria Iron Co.'s 150-barrel roller mill, Woodvale, Pa., lost heavily by flood. Stock and machinery were injured.
 Daniel Ellis & Sons, St. Clair & Haslett, Patterson & Hershey, and E. M. Evans, Blairsville, Pa., all lost heavily by flood damages to their flour-mills.
 The Beaver Mills and the Noble & Son Flouring Mills, Williamsport, Pa., were flooded, and the former was destroyed. Noble & Son lost \$12,000 by the flood.
 J. & M. Wolf's flour-mill, near Harbor Mills, Pa., was carried away by the flood. D. Wentz's mill, near the same place, was destroyed by the flood. Both were 40-barrel mills.
 At Summer Hill, Pa., the June flood cost D. A. Sipe \$2,000, the Wilmore Mill \$150, Knepper's Mill about the same amount, and carried away the dams at the mills of Geo. Gramling and Mr. O'Hara.
 Jos. Wagner & Co., mill-builders and milling engineers, San Francisco, Cal., dissolved by mutual consent on June 4. Joseph Wagner succeeds and will continue the business under the same style. The retiring member is Michael O'Brien.
 Milton B. Eshelman, flour-mill at Newport, Pa., who recently made an assignment, continues the business for the assignee. His liabilities are about \$12,000; preferred claims \$10,000; nominal assets \$12,000. His loss by the flood was reported to be about \$1,000.
 The millers along the Chesapeake & Ohio Canal, Georgetown, D. C., lost heavily by the June floods. Many of them will not start up again. The "Foundry Mills" suffered most seriously. W. H. Tenny, & Son's "Capital Mills" lost \$2,500 in stock wetted. G. W. Cissel & Co. lost about \$3,000.
 Quoting a recent utterance of THE MILLING WORLD on the list of ridiculous grain compounds offered by quacks to the public, under top-lofty names, Professor Wm. T. Toty, the well-known editor of the Butte City, Montana, *Daily Miner*, says: Everybody is anxious to get the very best flour made, that is, that which is the most wholesome and nutritious. To this end one is likely to run away after false gods. One is deceived by the high-sounding terms quoted in THE MILLING WORLD's article. The trouble is that people are unwilling to trust nature. If sick, they trot around for some outside aid, some fetich or cure-all to put into their systems to search around and find the dread disease that is "attacking" them and then "snake" it out, much as a hound would a woodchuck in its retreat. They do not understand, nor do they seem to want to, that sickness is simply an abnormal condition of the system, produced by violations of nature's infallible laws, and that to get rid of the "attacking disease," one has but to return to first principles and give nature a chance. If people would learn that the most perfect food for man known is wheat, pure and simple, they would soon understand the wisdom of depending on this article for their chief nourishment. Nor would they consent to have the article destroyed by the wastage of the more nutritious parts and the retention of simply the starch or substance which makes the average loaf of bread so white. On the contrary, they would demand the retention of every particle of the grain, the indigestible part called bran for the laxative qualities it possesses, and the next substance, together with the starchy kernel, for their nutritiousness in the combination made by nature. They would, indeed, cease to be eternally hunting for the "wheatenas," the "brancenass" and all the other high-priced humbugs with which the market is being constantly flooded. They would go to some reputable dealer and purchase the best whole wheat or graham flour to be obtainable. As to the adulterations, that is a matter pretty hard to control, and if the consumers can not depend upon their merchant nor their own judgement as to the quality of the article, they must take the chances. It is notorious that white flour is vilely adulterated, and so are the other kinds. In this respect it is "Hobson's choice." But, otherwise, it is a matter of great difference between the nutritious and the innutritious.



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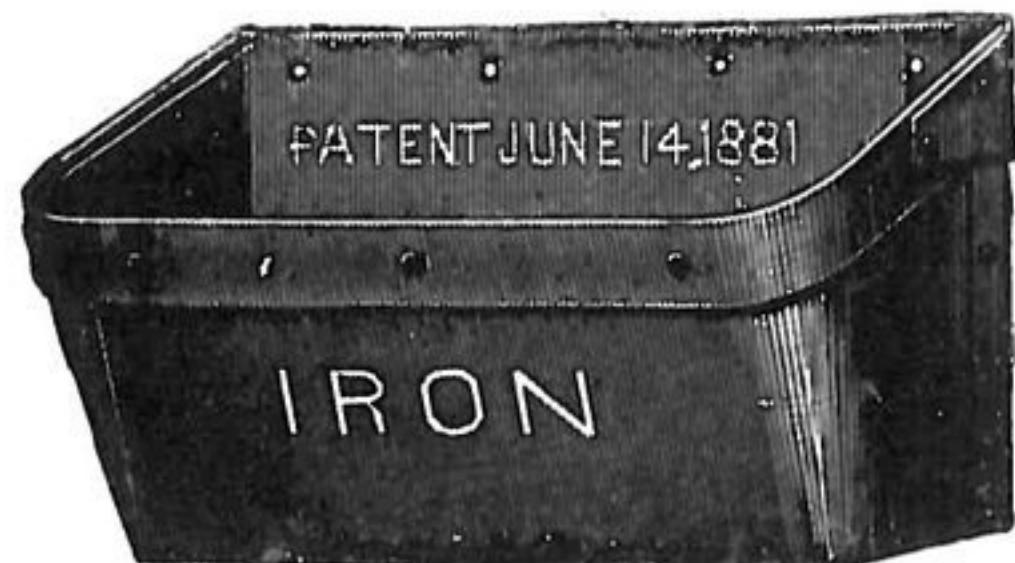
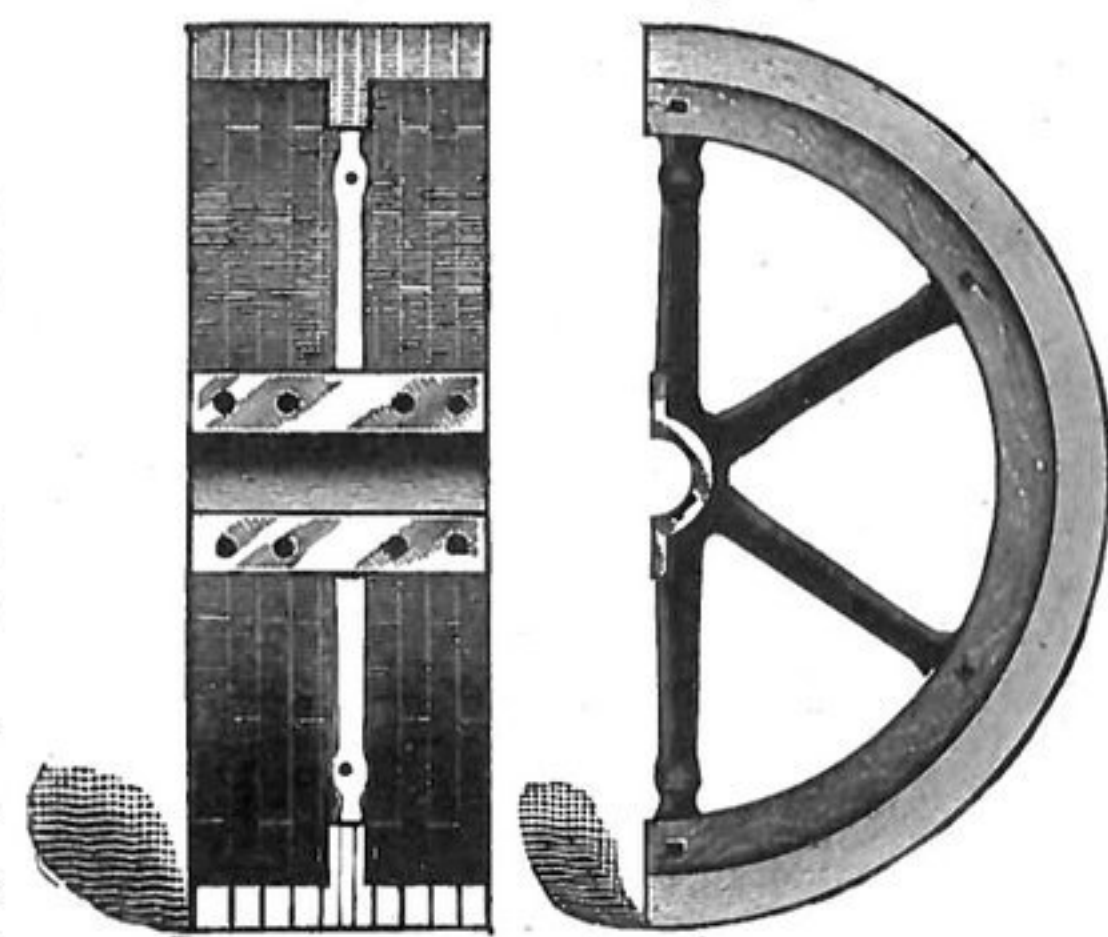
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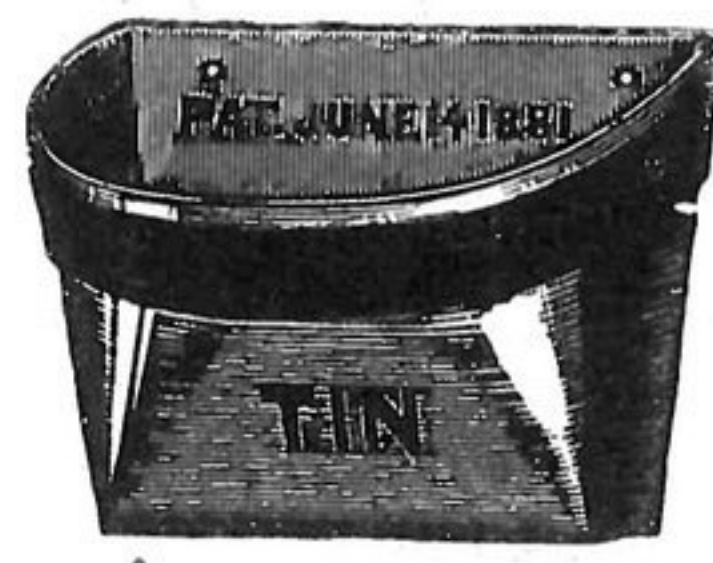


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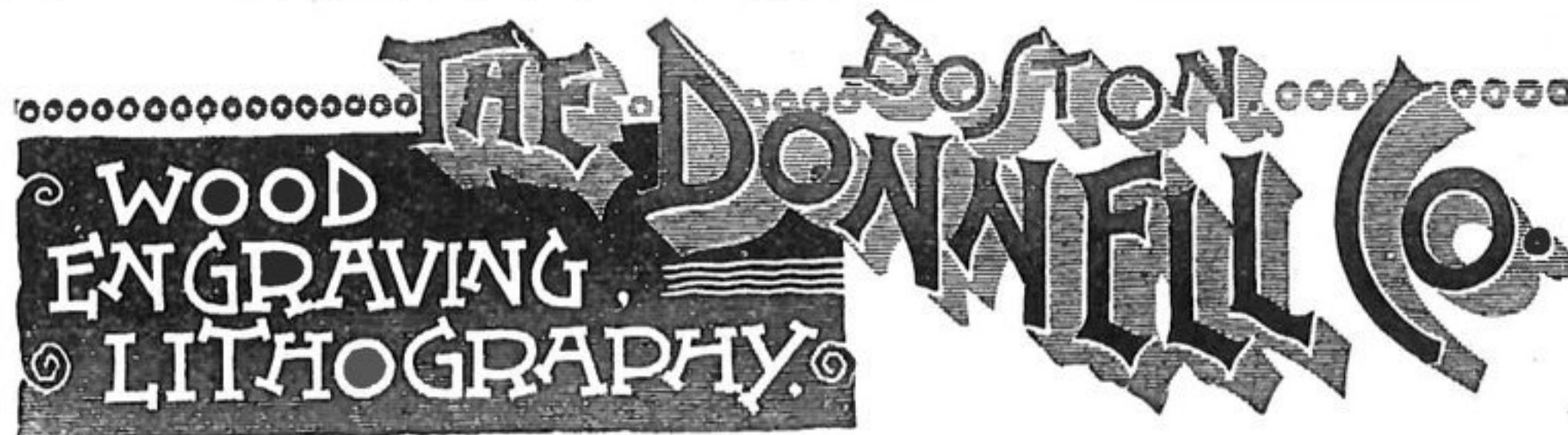


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EUROPEAN ECHOES.

THE flour-mills of Budapest are reported to have ground 6,100,000 zentners (the zentner is 220·46 lbs.) in 1888, against 5,200,000 zentners in 1887.

ANOTHER memorandum has been issued by the Prussian Minister of Finance enjoining Custom House officers to exercise the utmost vigilance over all bran imports, lest the bran should contain an extracable proportion of flour. Where this is the case, the attempted fraud is to be punished by admixture of coal dust with the "too rich bran."

THE correspondent of a German cotemporary asks whether it would not be possible to utilize the explosive force of flour as a motor. Why should not a certain proportion of flour and air be conducted into an engine and exploded just as the explosion-chamber of a gas-engine receives at regular intervals a fixed proportion of gas and air? All we have to find, he argues, is the exact proportion of flour and air.

THE manager of a large flour mill in Antwerp, Belgium, was recently fined for selling flour containing a certain proportion of alum. On appeal the sentence was reversed. In the course of this case many experts were heard on both sides, and while Professor Brylants and several other chemists of eminence deposed that alum was a highly noxious ingredient in flour, others maintained that in the proportions established in the present instance it was harmless.

COMTE DE ROCQUIGNY says in "La Meunerie Francaise" for May: "The study of the movement of importations of cereals into France during the past few years shows some interesting things. We imported 6,457,000 quintals of wheat in 1885, and the quantity grew to 7,097,000 quintals in 1886, to 8,967,000 quintals in 1887, and to 11,350,000 quintals in 1888. The increase has been constant for four years, and it was very pronounced for last year, in order to make up for the shortage in our harvest. Thus there were imported into France in 1888 about 11,350,000 quintals of foreign wheat, which paid into the treasury a customs tax of more than 56,000,000 francs. This experience has demonstrated, in spite of predictions to the contrary, that the import duty of 5 francs opposes no obstacle to the importation of cereals indispensable for the public needs, and that its only effect has been to maintain moderate prices in our markets, equally satisfactory to both consumers and producers. The movement of importations has been wisely regulated by our customs tariffs, which prevented that movement from assuming unsatisfactory proportions."

SAYS the London "Miller" of June 10: Thunder-storms of exceptional violence have passed over Western Europe during the week. The lightning over London on Thursday evening was more vivid and intense than on any occasion since the memorable 18th of August, 1887, but instead of bringing the hot weather to a sudden termination, as did

that storm, the recent electrical disturbances appear to have almost increased the closeness of the heat. The fall of rain was wonderfully local, some parts having nothing but a few angry drops, while others had a flooding down-pour. The London storm of Thursday had been preceded on Tuesday by a most violent hail-storm at Castleacre and on the western Norfolk fens, and it was followed on Friday by a terrific thunder-storm at Dover, together with drenching rains. Parts of Hertfordshire have been flooded, and the clouds, which still hang about or may be seen advancing slowly against the wind, appear to show that electrical conditions continue to prevail. In France, as in England, there has been exceedingly electrical weather, and the heading of *Les Orages* has remained daily in type in the French agricultural press. The damages which severe storms may do later on, when the corn is getting top-heavy on lengthy stems, is a matter which can not be ignored, and while a hot, electrical summer is generally a good corn year, there is often in such seasons so much to be deducted for damage before or during harvest, that the final out-turn is reduced to a bare average. The climatic conditions which prevail in Germany, Austria, Hungary, Poland and Russia are widely different from those existing in Western Europe, for in the case of the five countries mentioned it is drought which is principally feared. The Russian Minister of Agriculture reports that the autumn-sown wheat is under average promise, and the out-turn of last year will certainly not be repeated. The spring-sown wheat is of more promising appearance, and if there should be a good fall of rain soon there may be a good yield. But a break up of the drought seems to be now a *sine qua non*, without which the spring-sown grain must needs yield poorly, as well as the winter sown. The drought in Germany is causing much apprehension to growers of rye and wheat. Since 1st January Russia has shipped 3,935,736 quarters of wheat, 1,980,641 quarters of rye, 1,195, 603 quarters of barley, 1,218,239 quarters of oats, and 368,119 quarters of maize. As compared with last year there is a slight decrease in wheat and a heavy decrease in maize, oats and barley. Rye shows a large increase. Following are the American flour shipments per month, the last showing a great reduction of the stress and strain upon British millers:

	Barrels.	Barrels.
	1888-89.	1887-88.
July.....	803,925	632,118
August.....	871,206	1,144,490
September.....	939,564	1,173,347
October.....	931,189	1,018,862
November.....	580,076	1,084,319
December.....	698,613	1,171,365
January.....	685,244	1,023,923
February.....	666,778	996,340
March.....	669,006	944,579
April.....	646,365	965,306
Total.....	7,491,966	10,153,749

The total imports of wheat since harvest into the United Kingdom are estimated at 10,905,219 quarters, and of flour at 3,577,368 quarters. The sales of British wheat are estimated at 6,176,202 quarters, and the total supply for forty weeks at 20,658,789 quarters.

The Canton Cabinet Filing Case Company, Canton, Ohio

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The New Buckeye Document Case & Letter File; Also All Kinds Office Furniture



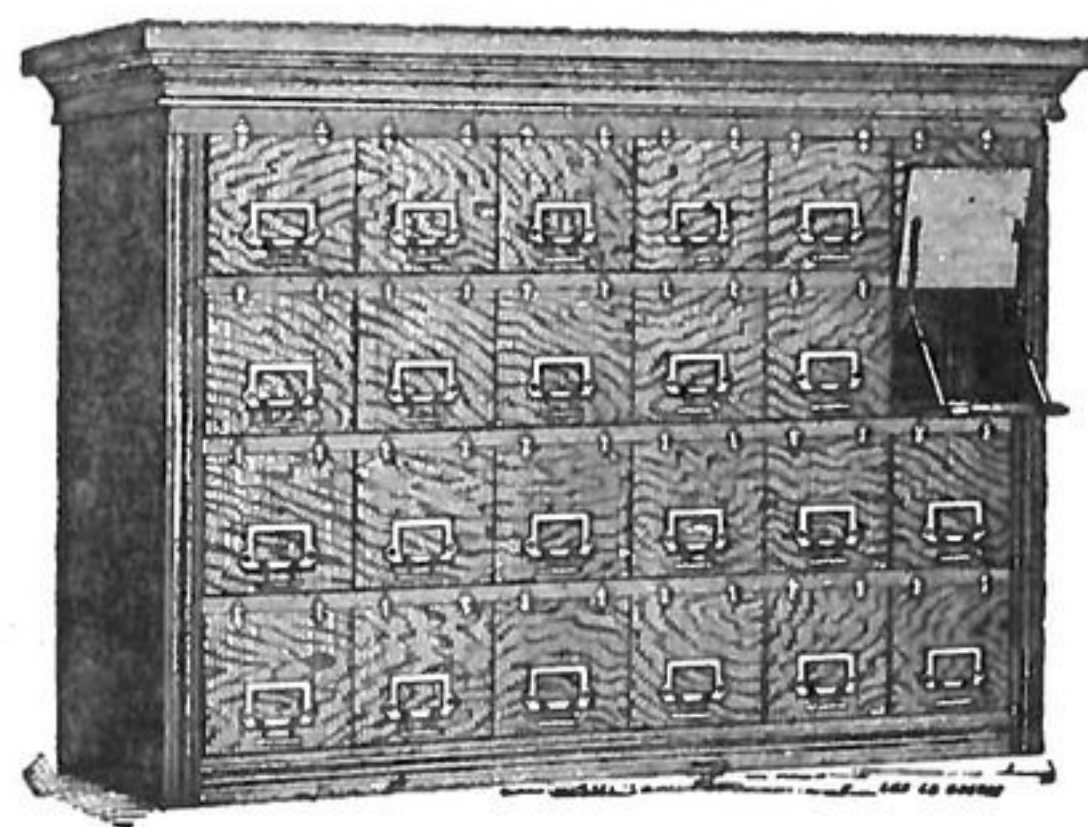
NO. 8.

NO. 8 Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 30 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

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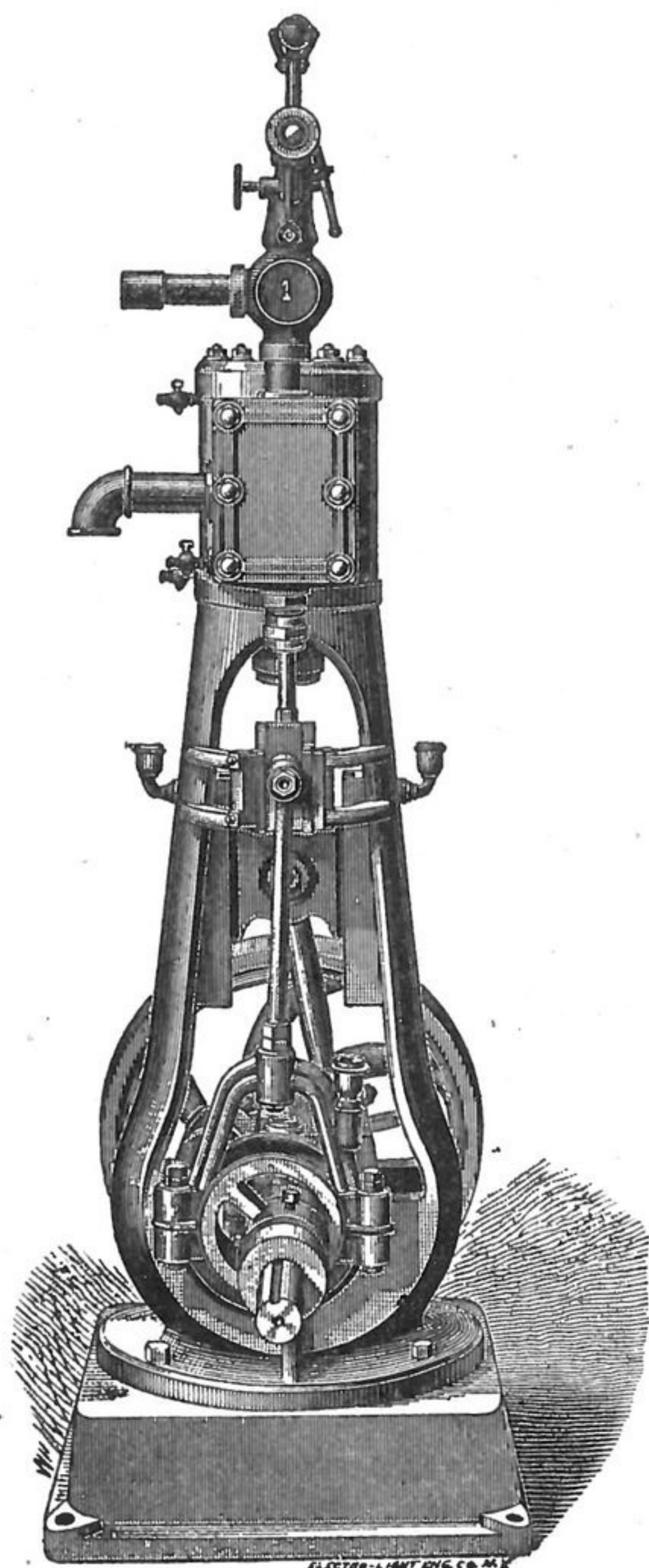
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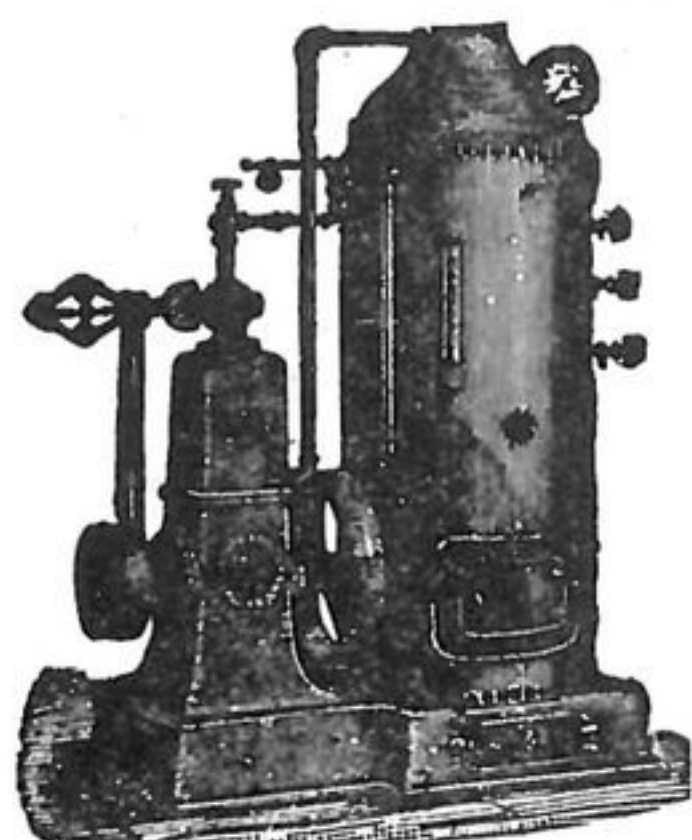
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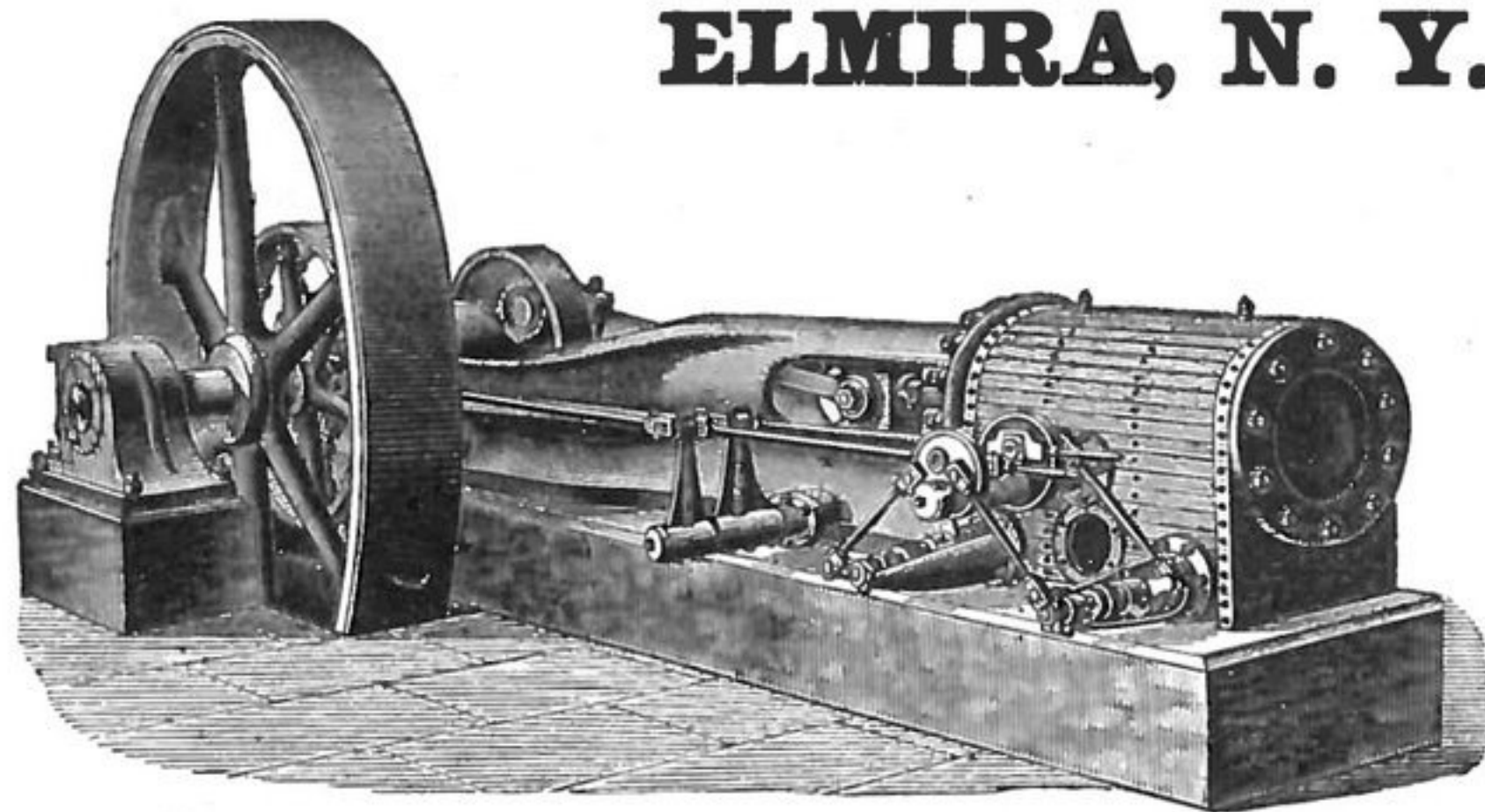
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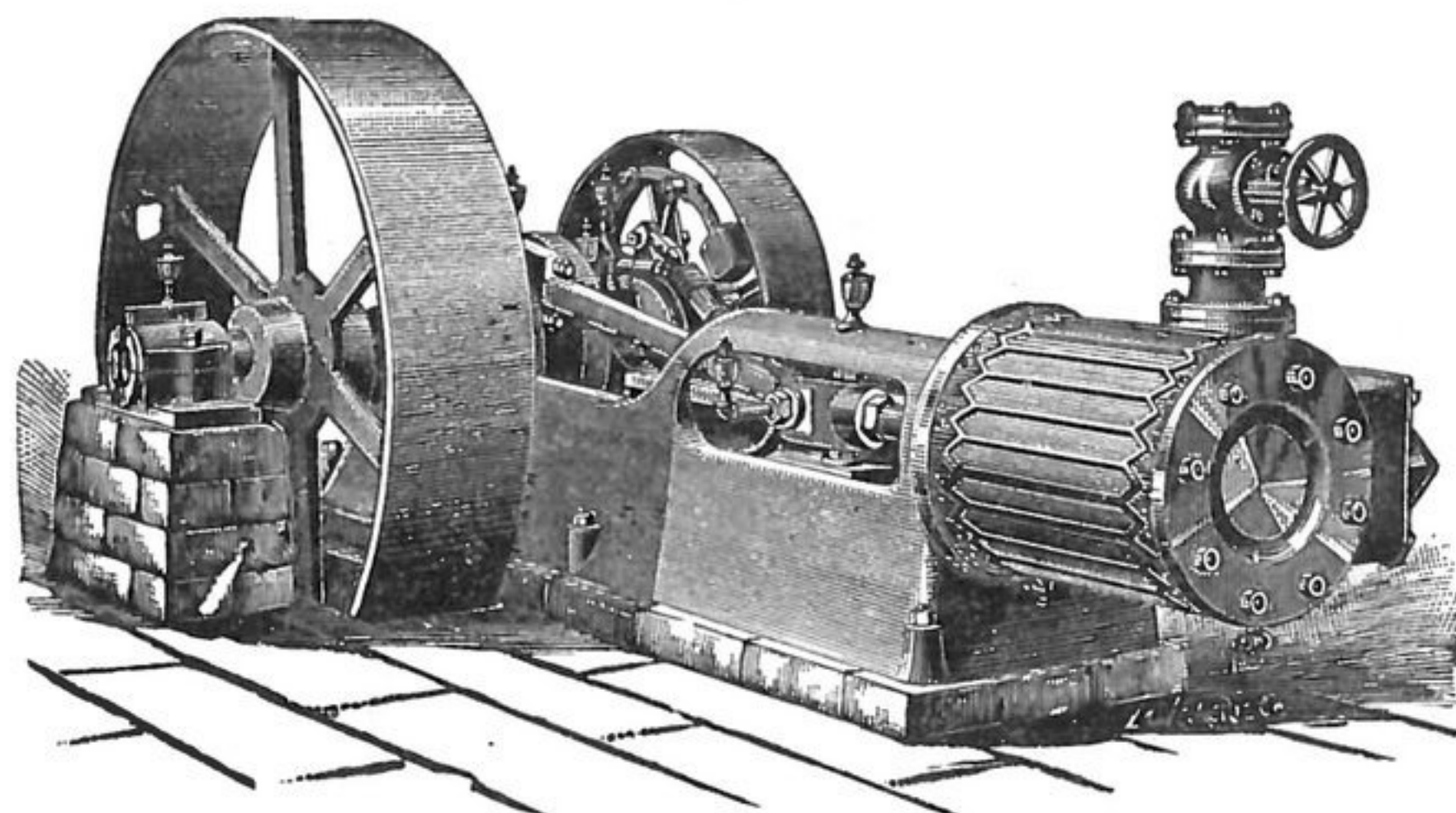
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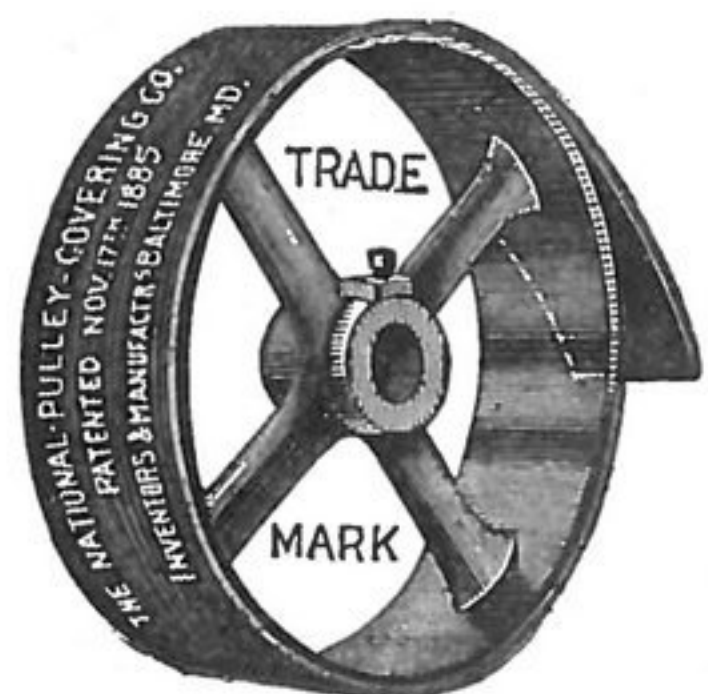
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THE Grain Flour Trade

OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., June 29, 1889.

Friday of last week saw stronger, higher and more active markets, on better cables, larger demand from Europe, bad weather in the spring-wheat district, and wet harvest in the winter-wheat district. June wheat opened at 83½c. and closed at 84¼c. Options 7,200,000 bushels. On both sides the Atlantic the wheat market showed signs of hardening. June corn closed at 41¾c. and oats at 28½c. Wheat flour was steady on the whole list, but exporters failed to get a lift on their limits from Europe, which were 10c. below New York figures. The minor lines were featureless.

Saturday brought quieter, but firm markets. June wheat closed at 84¼c. Options for the half-day 680,000 bushels. June corn closed at 42c. and oats at 28½c. Wheat flour was quiet, with New York figures 15c. above European exporters' limits. Prices were unchanged. The minor lines were quiet and featureless.

Monday brought renewed strength in wheat on strong cables and decreasing visible supply, in spite of improved weather in the West. June wheat edged up to 84¾c. at closing. Options only 680,000 bushels. June corn closed at 28¾c. Wheat flour showed no marked features except the firmness of high-grade holders. The minor lines were all quiet and featureless. The visible supply in the United States and Canada was:

	1889.	1888.	1887.
June 22.			
June 23.			
June 25.			
Wheat.....	16,448,388	24,602,533	38,620,212
Corn.....	9,834,399	12,589,754	10,854,517
Oats.....	5,574,971	5,658,574	2,897,180
Rye.....	968,877	236,748	237,173
Barley.....	328,878	175,174	137,216

Tuesday brought increased activity in speculation, on unfavorable reports from both spring and winter wheat sections, on damage to crops in Russia, Dakota and Minnesota by drouth, on damage in Illinois and Indiana by the green wheat midge, and on reports that Russian vessels were taking the "war-risk." June wheat stood at 85½c. at closing, only 1c. below the notch on the corresponding day last year. Options 11,240,000 bushels. June corn closed at 42¼c. and oats at 28½c. Wheat flour was in fair demand, but the firmness of holders checked transactions. Some export sales were recorded. The minor lines were quiet and featureless. Reports gave the following figures on stocks of grain in regular elevators in Chicago: 2,276,000 bushels of contract wheat; total wheat 2,829,000 bushels. Stock of contract corn 1,815,000 bushels; total corn 2,084,000 bushels. Stock of contract oats 923,000 bushels; total oats 1,942,000 bushels.

Wednesday brought a wild day in wheat, on strong cables, bad reports of weather, and a wild scramble by shorts to buy. June wheat closed at 86¼c., the exact figure of the same day last year. Reports from the winter-wheat belt were unfavorable, and much damage by bugs was reported. Spring-wheat conditions were reported worse. Option sales 20,000,000 bushels in New York. July and August wheat closed at 86¼c., September and October at 86½c. and December at 89½c. June corn closed at 42c. and oats at 28½c. Rye grain was quiet at 48¢ for Western, 52c. for state afloat, and 49¢ for Jersey on track. Malt was quiet at 92½c. @ \$1 for Canada, 85¢ for 2-rowed state, and 88¢ for 6-rowed state. Mill-feed was slow at 52½¢ for 60-lb., 57½¢ for 40-lb. and 80-lb., 77½¢ for 100-lb., 65¢ for rye and \$1.20 for oil and cottonseed meal.

Wheat flour was strong for spring patents, which were scarce. Low grades were quiet. The demand for choice straights and patents

was fair. The market closed strong, with an upward tendency, at the following figures:

SPRING FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.70@1.85	\$....@....
Fine.....	2.10@2.15	2.25@2.50
Superfine.....	2.30@2.60	2.70@3.10
Extra No. 2.....	2.90@3.20	3.10@3.35
Extra No. 1.....	3.40@3.75	3.60@4.25
Clear.....	3.45@3.75	3.75@4.00
Straight.....	4.45@5.00	4.50@5.25
Patent.....	5.30@5.60	5.15@5.90

WINTER FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.80@2.00	\$....@....
Fine.....	2.20@2.50	2.35@2.60
Superfine.....	2.60@3.10	2.90@3.25
Extra No. 2.....	3.20@3.50	3.45@3.60
Extra No. 1.....	3.60@4.25	3.80@4.80
Clear.....	3.75@4.10	4.00@4.55
Straight.....	4.25@4.60	4.50@4.80
Patent.....	4.50@4.75	5.00@5.35

CITY MILLS.		
W. I grades.....	\$4.30@4.45	
Low grades.....	2.35@2.65	
Patents.....	5.00@6.00	

Rye flour was steady and in moderate demand at \$2.60@2.90, most sales averaging \$2.75. Corn products were in better demand at the following quotations: Coarse 80¢@82c; fine yellow 90¢@95c, and 95c for fine white; Brandywine \$2.75; Southern and Western \$2.60@2.75; grits \$2.60@2.70; hominy grits \$2.76@2.75 in barrels and \$1.20 in sacks; granulated brewers' meal \$1.20 per 100 in sacks. Corn flour \$2@3 for bbls; chops 60¢@65c.

Thursday was a quieter day. June wheat closed at 85½c. Options 9,560,000 bushels. Export trade was fair. June corn closed at 41¾c. Options 784,000 bushels. June oats closed at 28½c. Options 245,000 bushels.

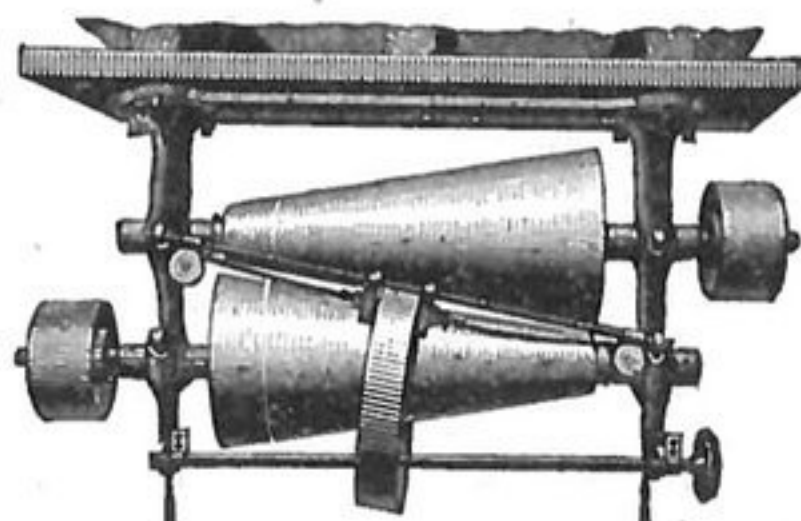
Wheat flour ruled unchanged and active. The other lines were only moderately active. Crop reports in general were rather unfavorable.

BUFFALO MARKETS.

WHEAT—No. 1 hard wheat was in fair demand today, but there was no spot wheat and no sale in that grade was made. New No. 1 hard at the close was quoted at \$1.02½ to arrive; old do do at \$1.23½; Northern wheat was in fair demand, 8,000 bu No. 2 changing hands at 85½c, and 2,000 do do at 85c; 97c was asked for No. 1 early in the day, but could find no buyers at that price; No. 3 was quoted at 76c. The highest price paid for Chicago July wheat was 80¼c; lowest, 79¼c; highest Decemr, 80¼c. and the lowest 79¼c. Winter wheat, there was a fair demand for choice Michigan, but there was none on the market; No. 2 red Chicago 89c. do Toledo 92¢@98c; the only sale made was 4 carloads No. 3 red at 80c; No. 1 white Oregon was quoted at 86c in store. CORN—Quiet but steady; No. 2 yellow was quoted at 39¼c; No. 3 do at 39c; No. 2 corn at 39¼c; No. 3 do 39¼c; latter sales made of 10 carloads No. 3 corn at 38½c, and 12 carloads No. 2 yellow at 38½¢@38¾c. OATS—In fair demand but light supply and market strong; No. 2 white 30½¢@33c. on track; No. 3 white 30½c; No. 2 mixed 26¾c in store. White State oats from farmers' wagons 34¢@35. CANAL FREIGHTS—Firm. Rates of freight on wheat to New York 3½c on corn 3¼c, on oats 2¼c, and on rye, 3¼c; lumber rates to New York \$2.25, to Albany \$1.75. RYE—Dull at 47½¢@48c for No. 2 Western. FLOUR—City ground—Patent spring \$6.25@6.50 straight Duluth spring, \$5.75@6.00; bakers' spring, best, \$5.50@5.75; do rye mixture, \$4.75@5.00; patent winter, \$6.00@6.25; straight winter, \$5.00@5.25; clear winter \$4.75@5.00; cracker, \$4.75@5.00; graham \$4.75@5.00; low grade, \$3.09@4.00; rye, \$3.25@3.50 per bbl. OATMEAL—Akron, \$6.00; Western \$5.75 per bbl; rolled oats, in cases, 72 lbs \$3.25. CORNMEAL—Coarse, 80¢@85c; fine, 85¢@90c; granulated, \$1.50 per cwt.

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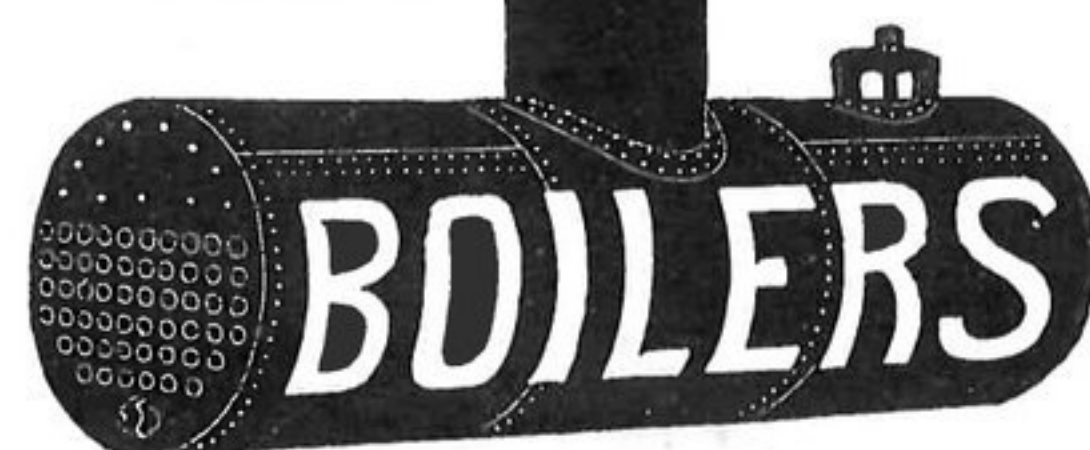


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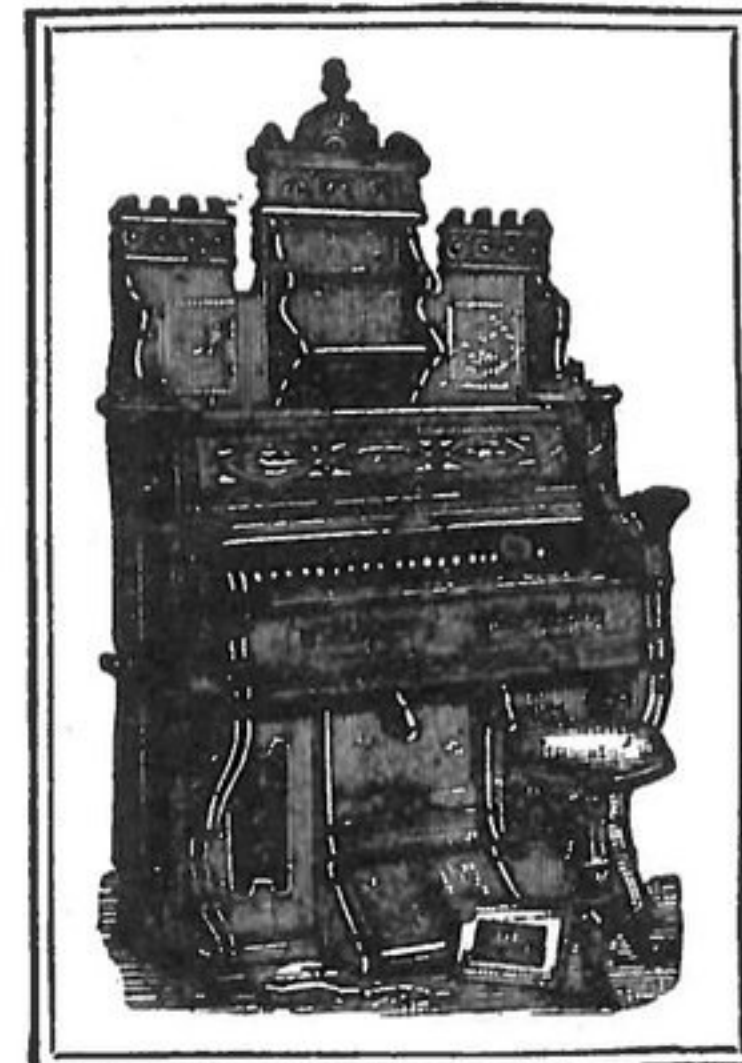
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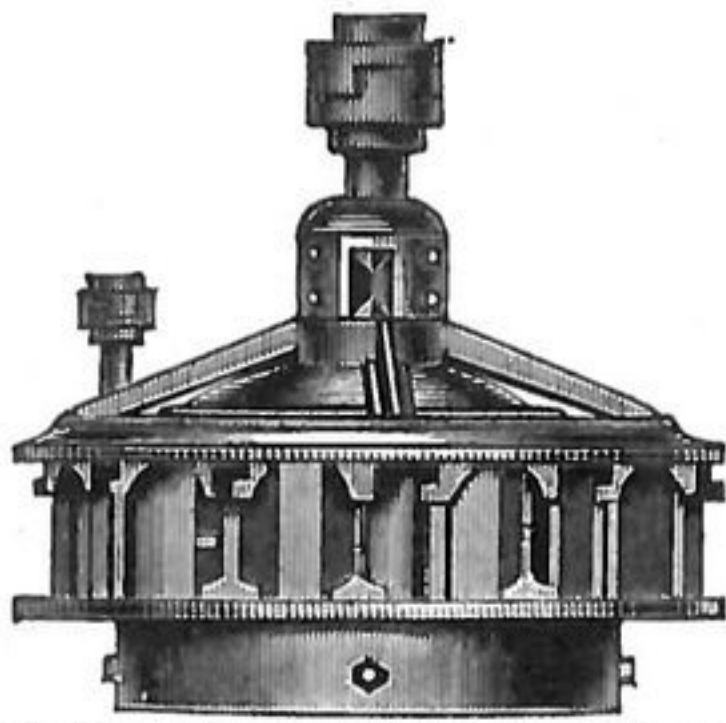
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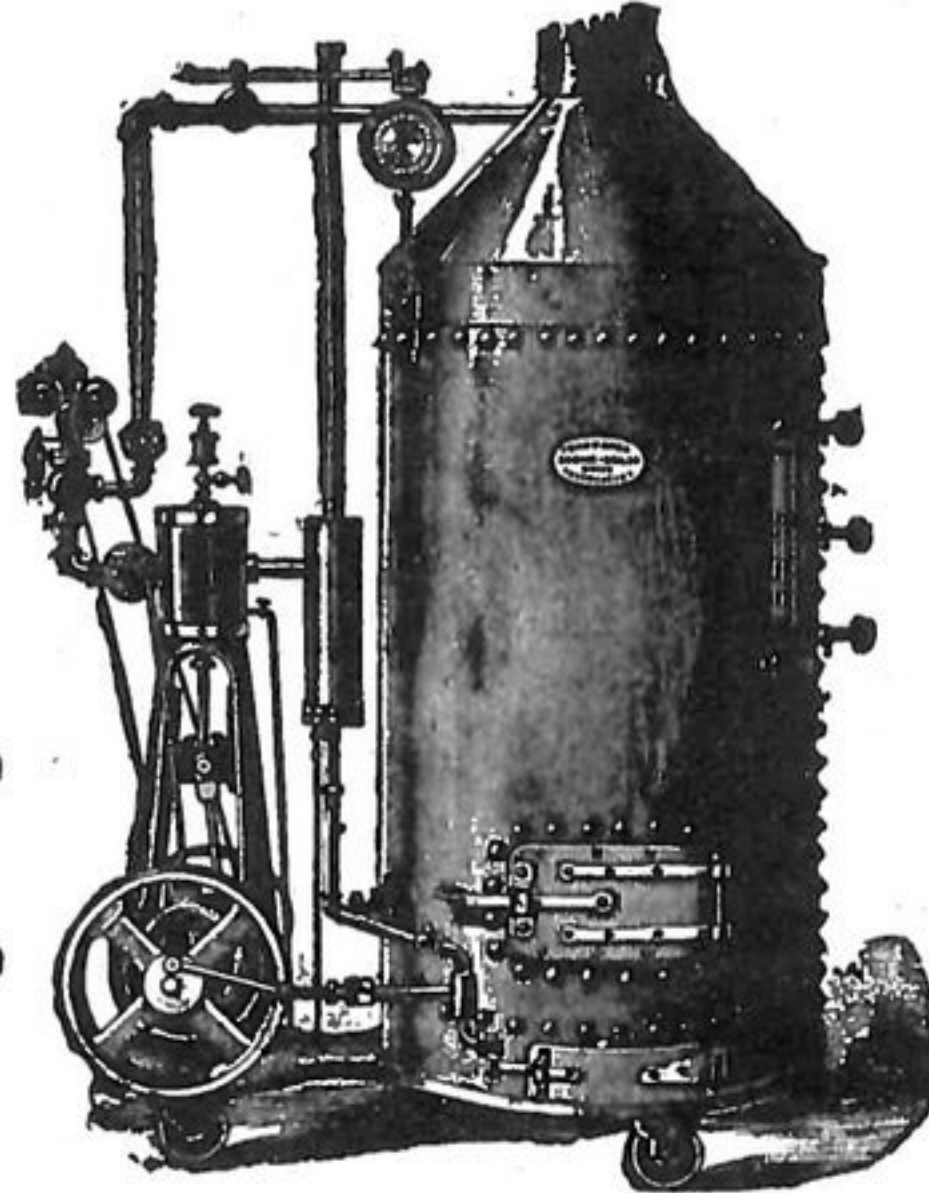
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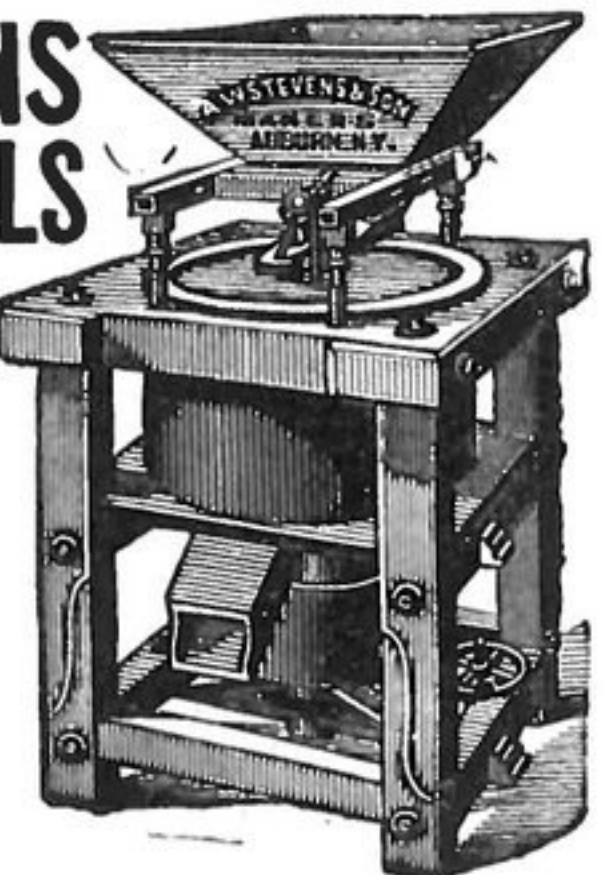
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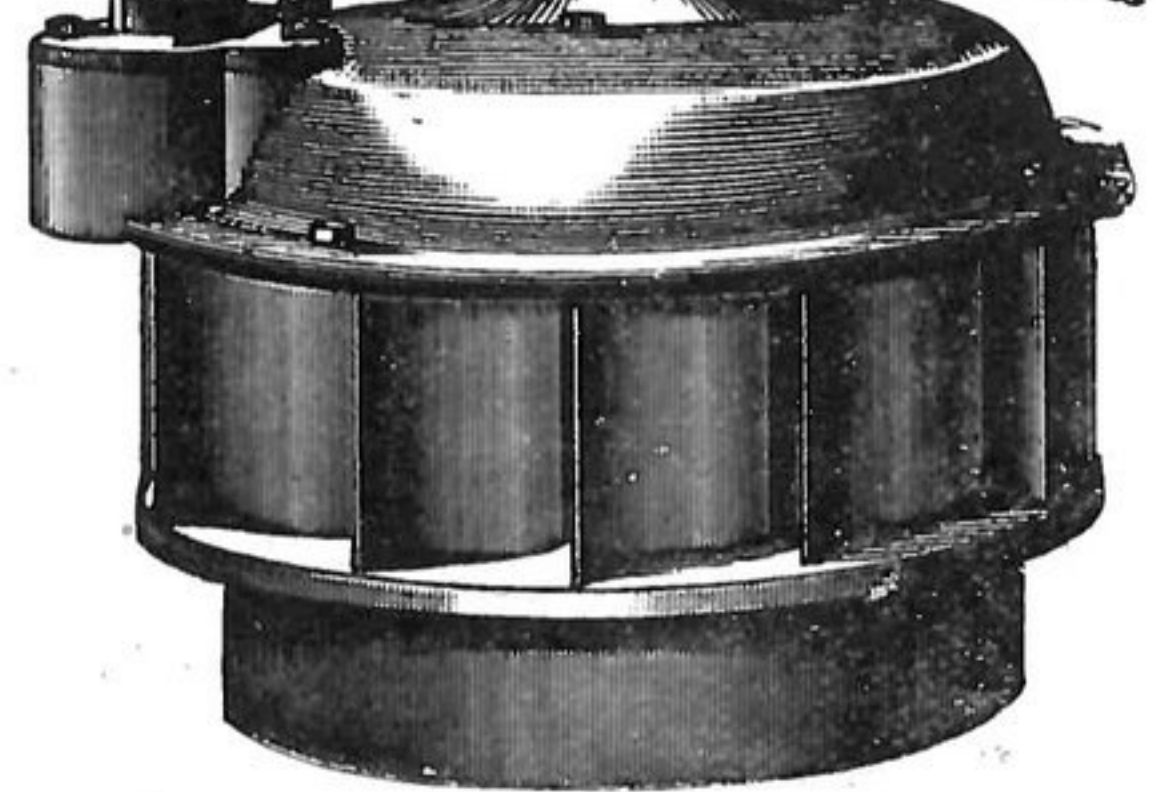
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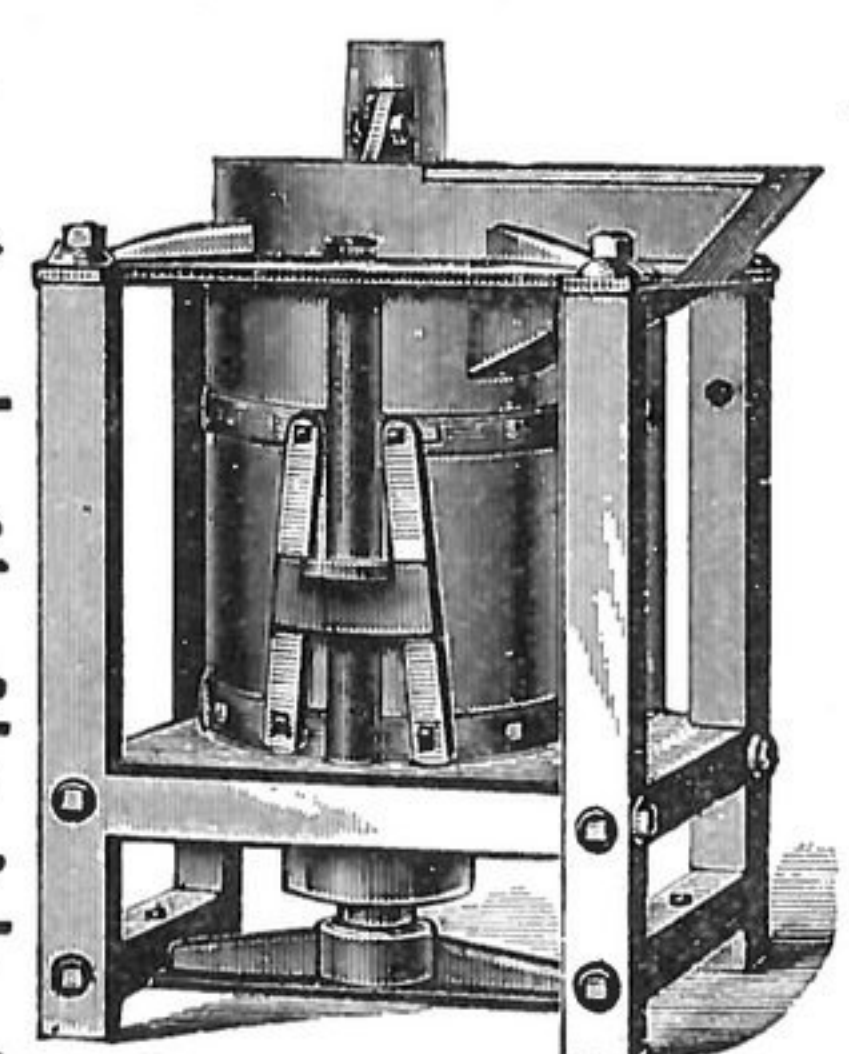
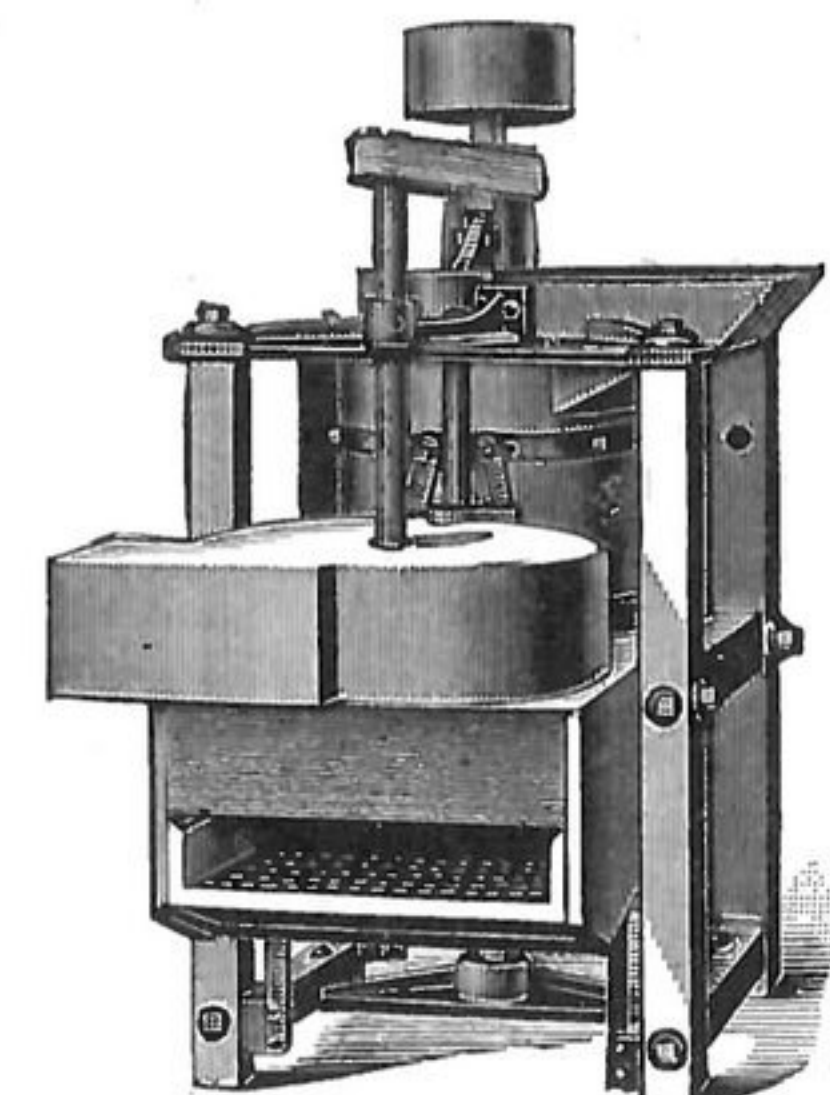
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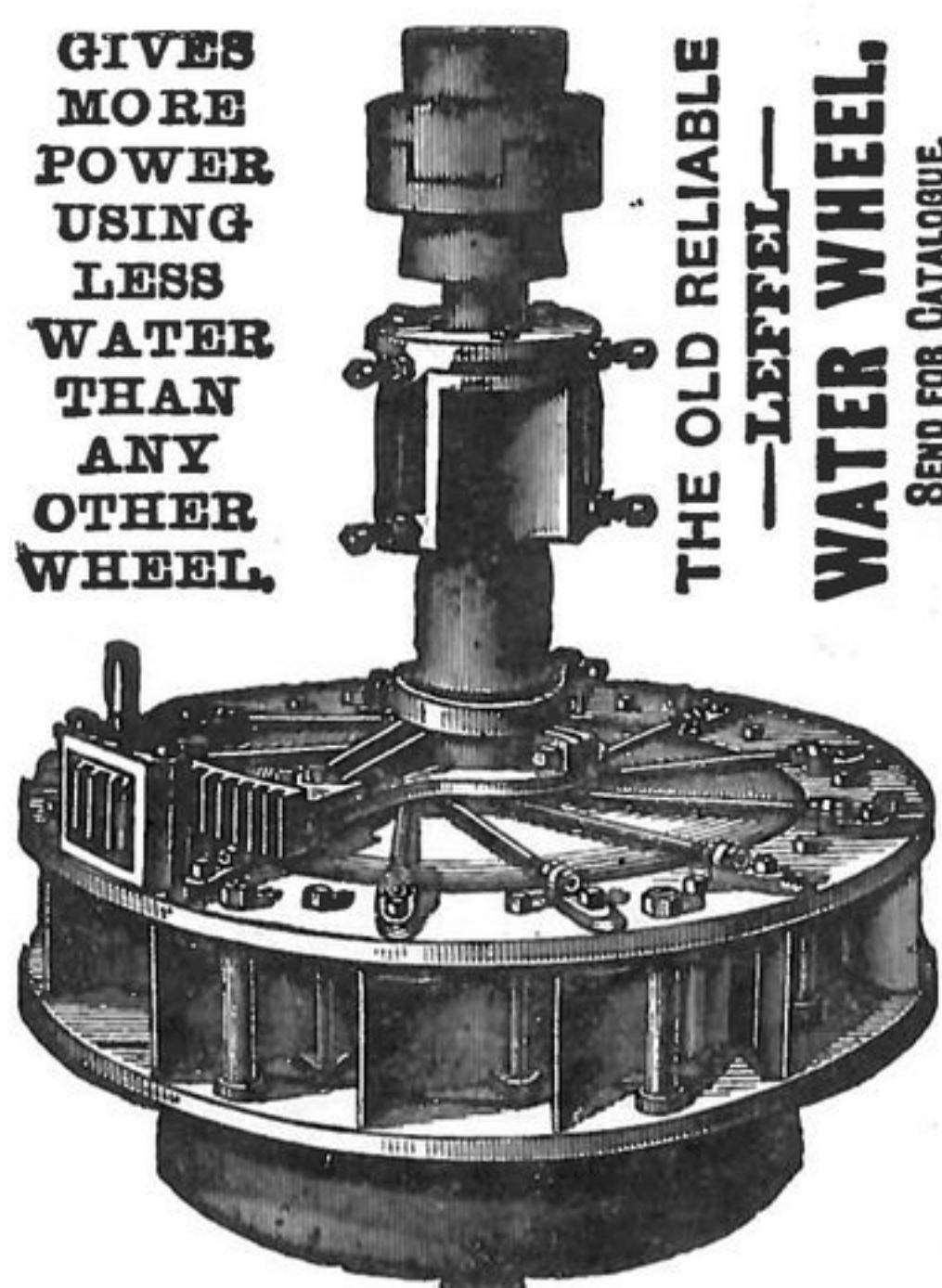
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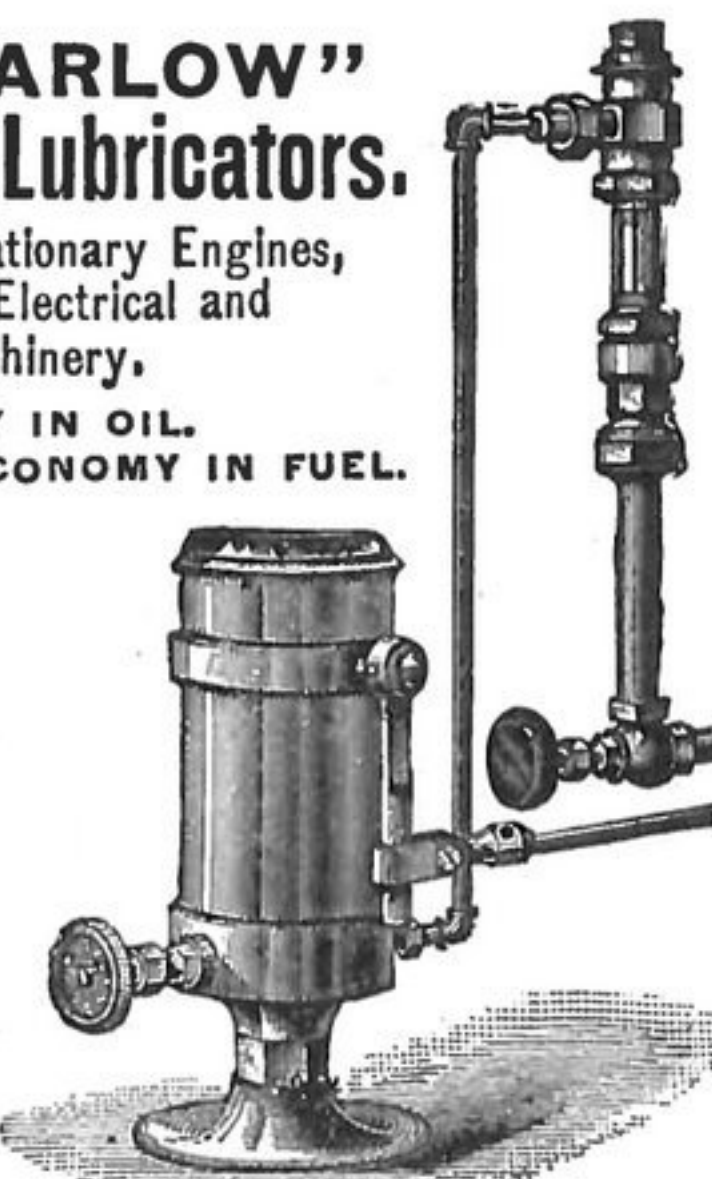
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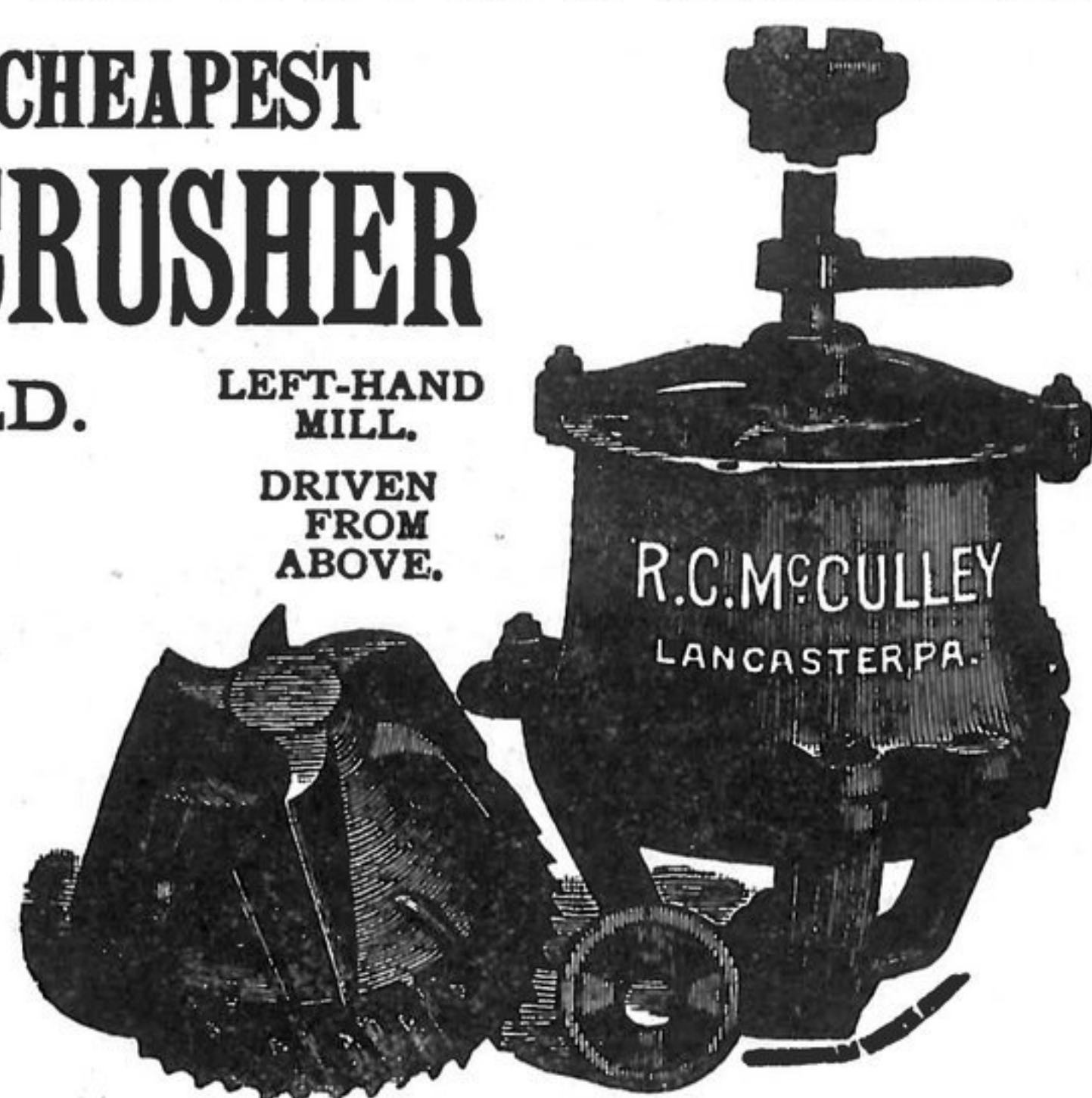
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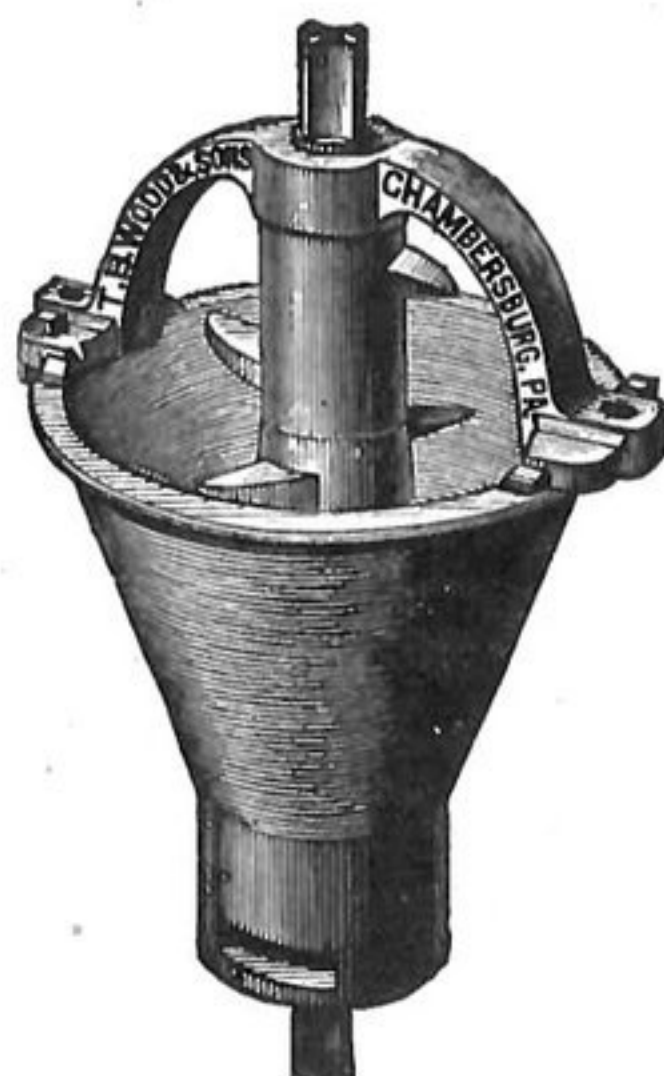
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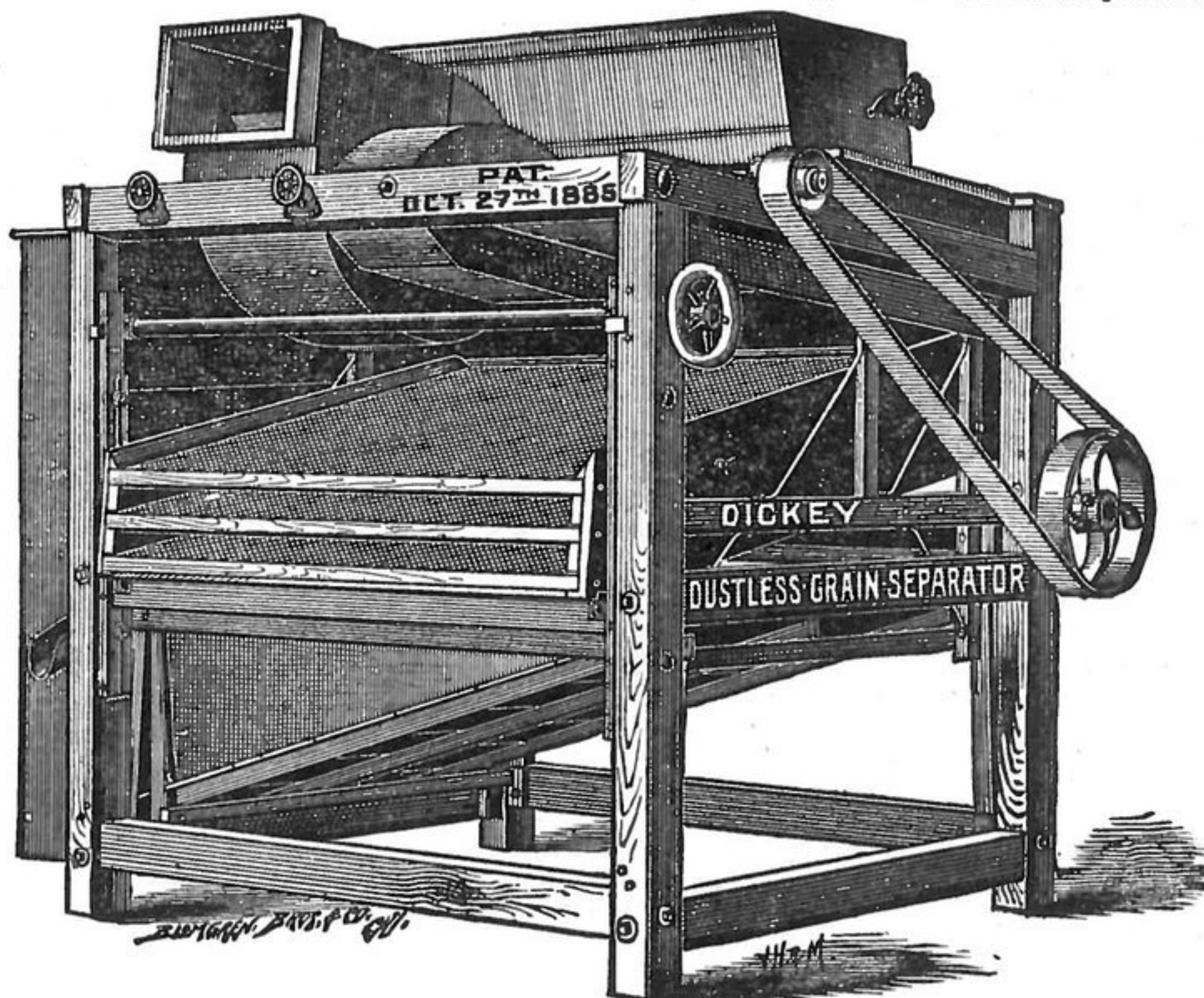


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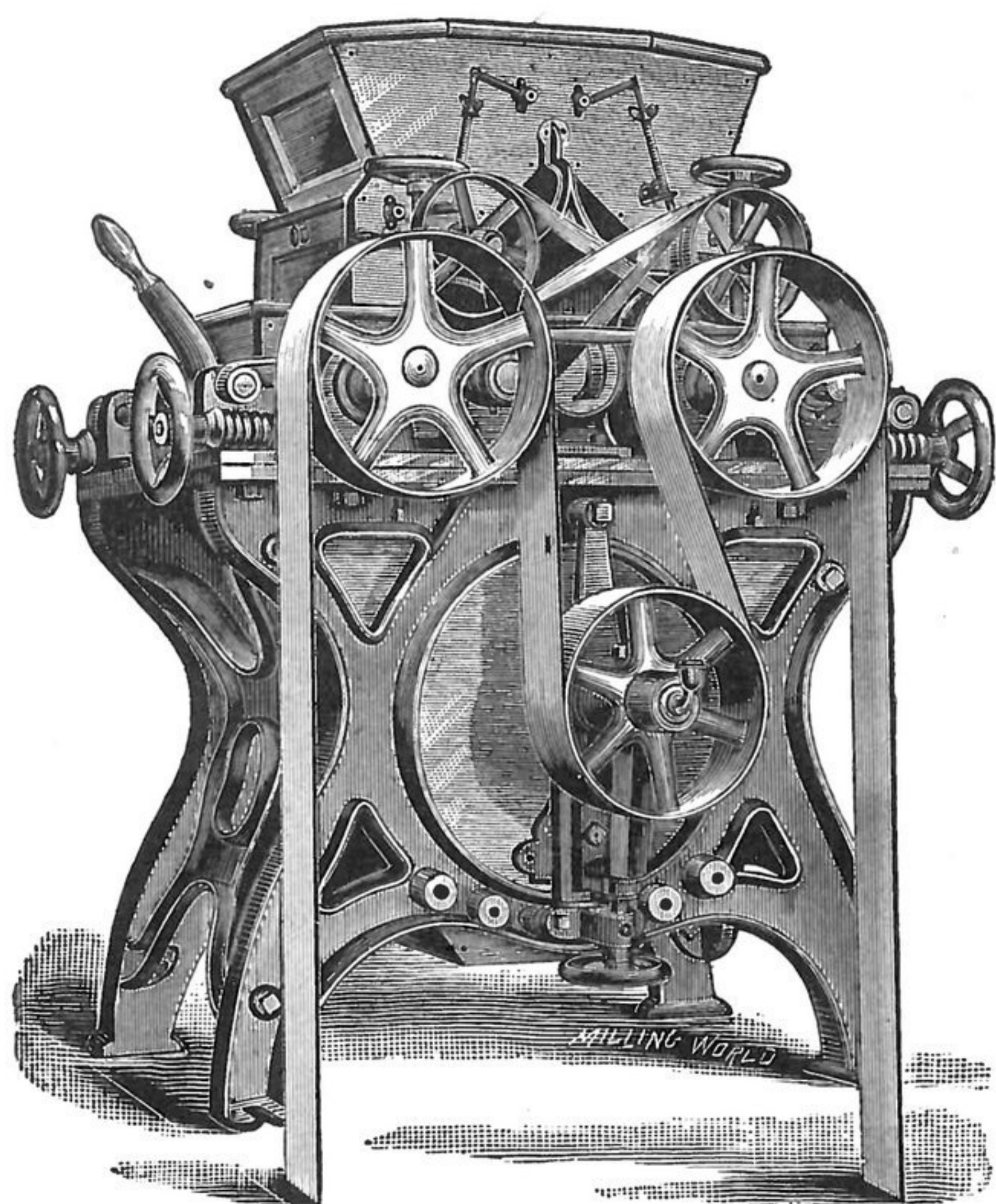
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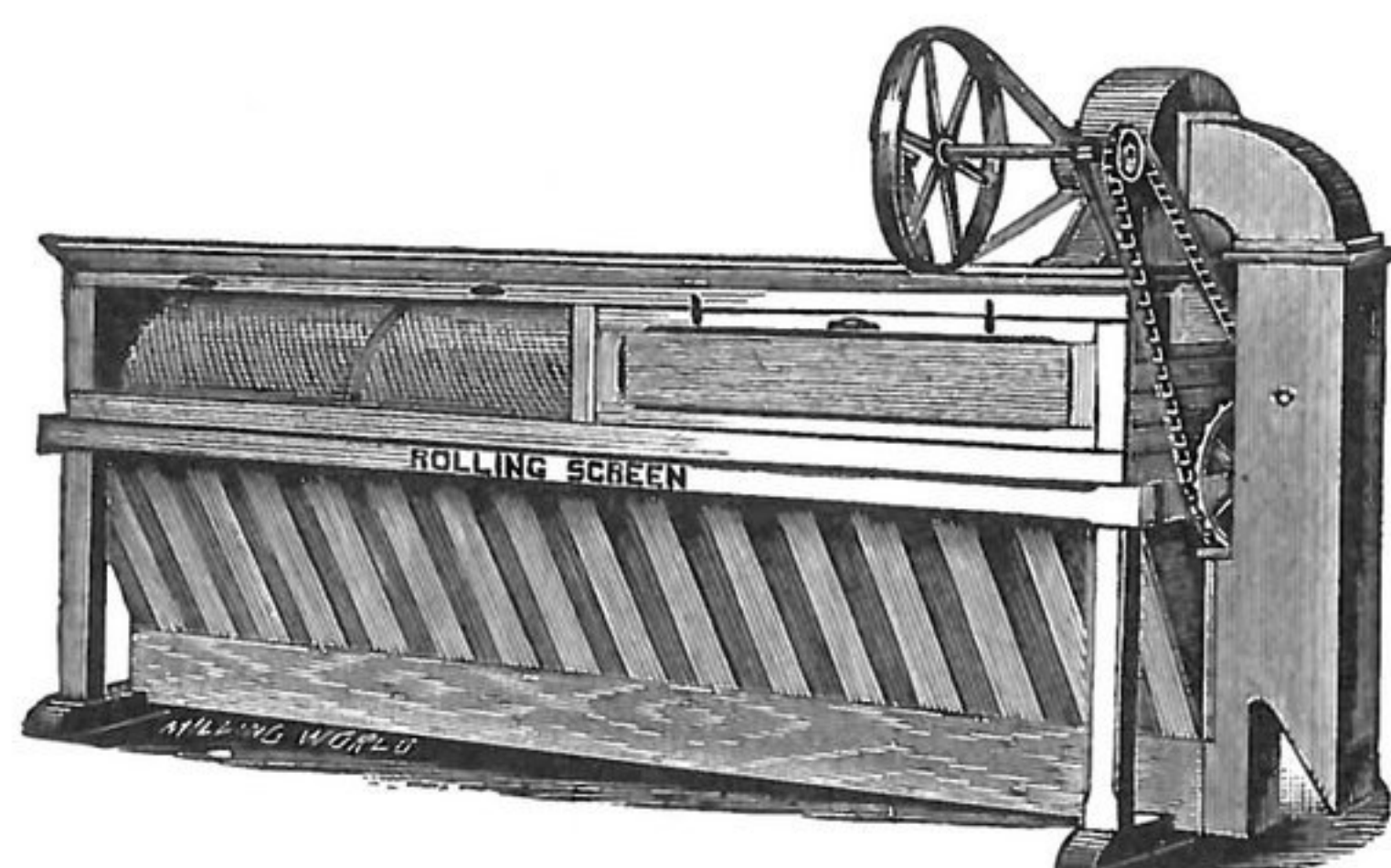
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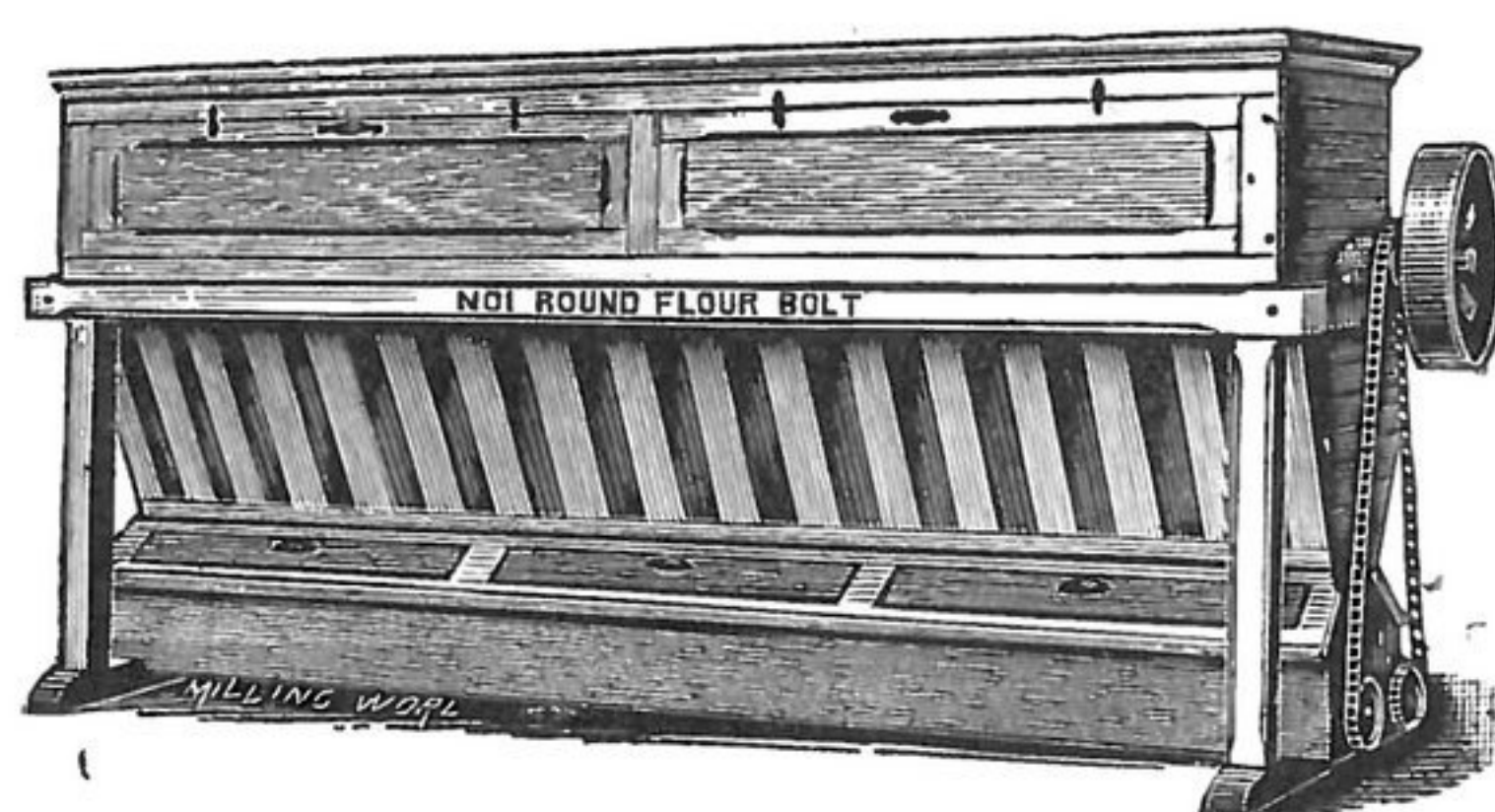
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6x20 "

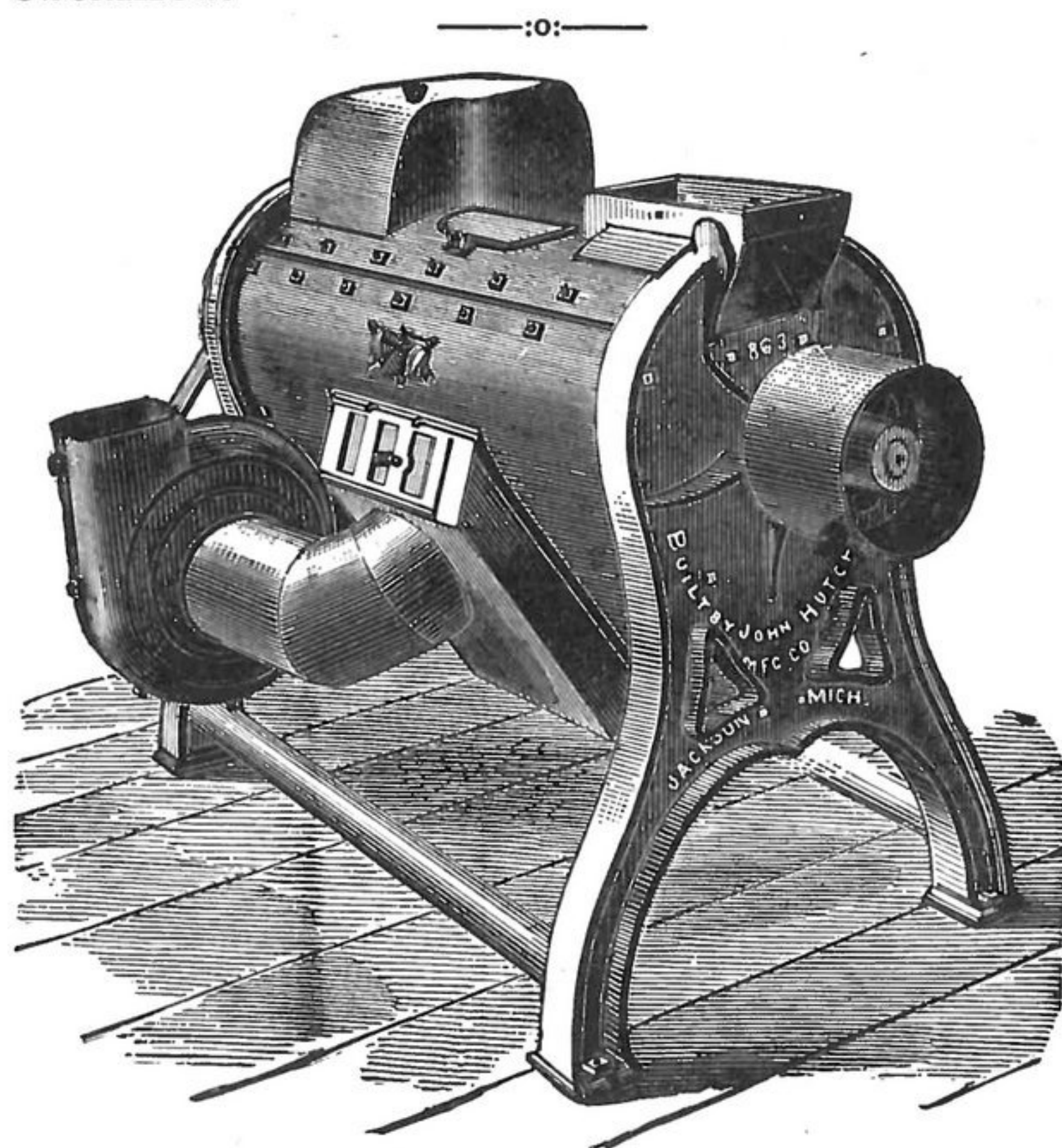


The above cut represents our New Rolling Screen, which is absolutely dustless and has as much scouring qualities as any two scouring machines now being made.

Send for Estimates for Our Full Roller Mills of any Capacity.



The above cut shows our New Round Slow Running Flour Bolt. We also build a Cylinder or Round Scalping Reel and we have lately built a number of new mills of medium capacity, using our Roller Mills, our Round Flour Bolts and Scalping Reels, getting better results than is usually obtained.

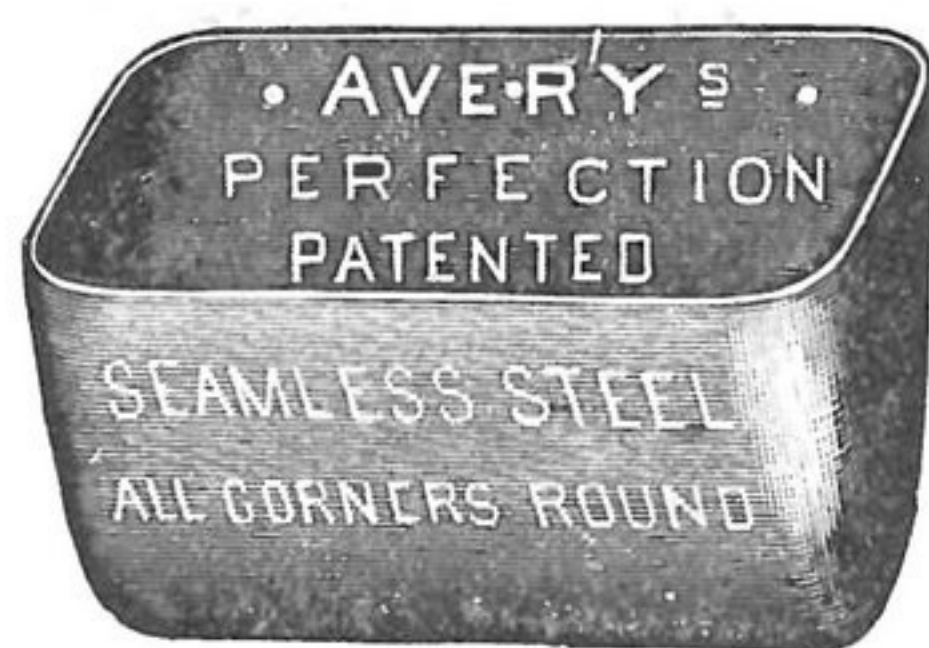


Hutchison's New Dustless Iron Corn Sheller, especially adapted for Mill and Elevator use.

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John Hutchison Mfg. Co.

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ELEVATOR BUCKET.

PLEASE NOTICE.

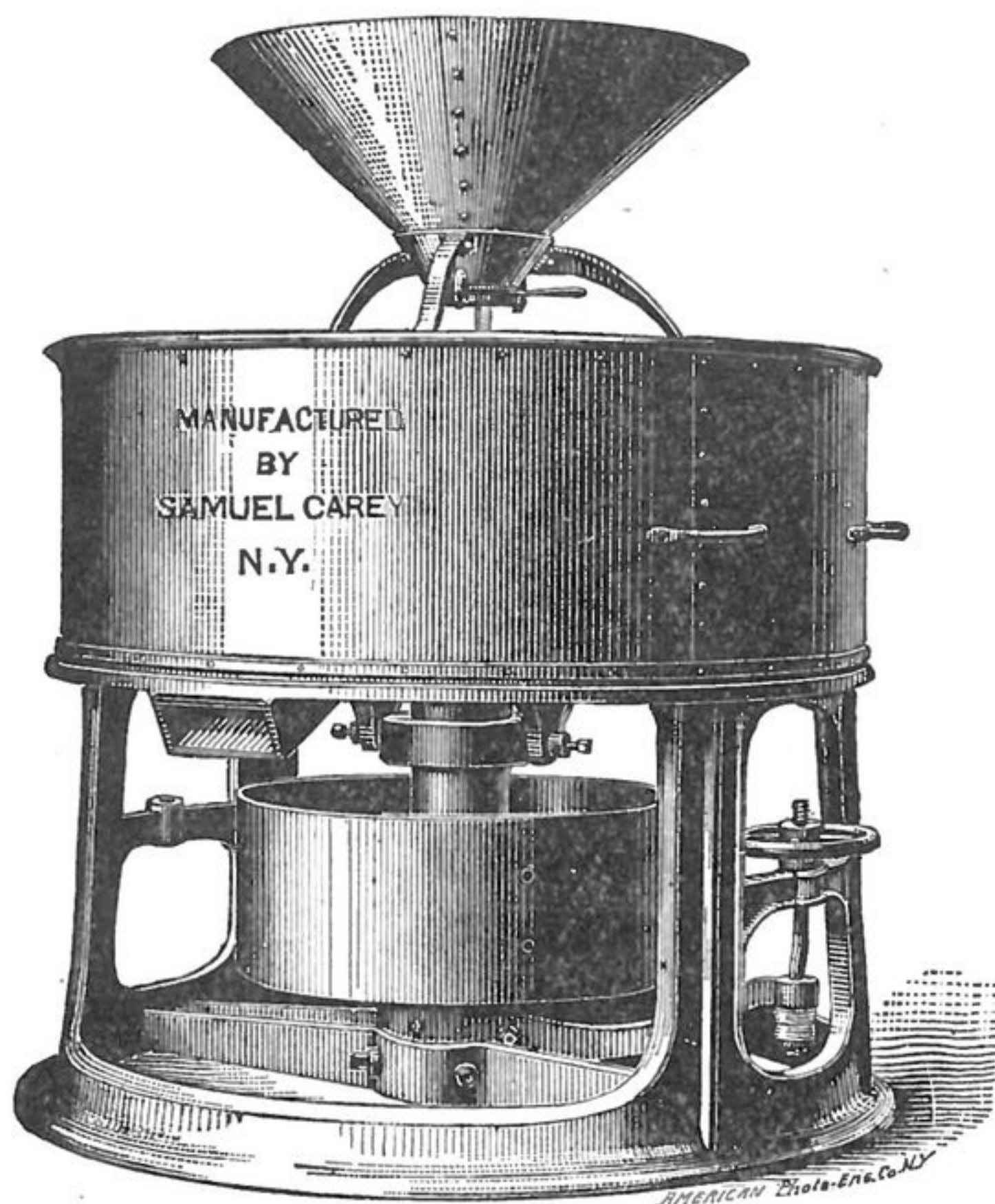
Our patents not only cover Seamless, Drawn, Stamped, Pressed or Forged Elevator Buckets; but also Pre-Date and Cover Round-Cornered Elevator Buckets when made Seamless, and are the Only patents ever issued in the World for a Pressed, Stamped, Drawn or Forged Seamless Elevator Bucket.

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SELF-TRAMMING PORTABLE MILL

BEST GRINDING MILL MADE.

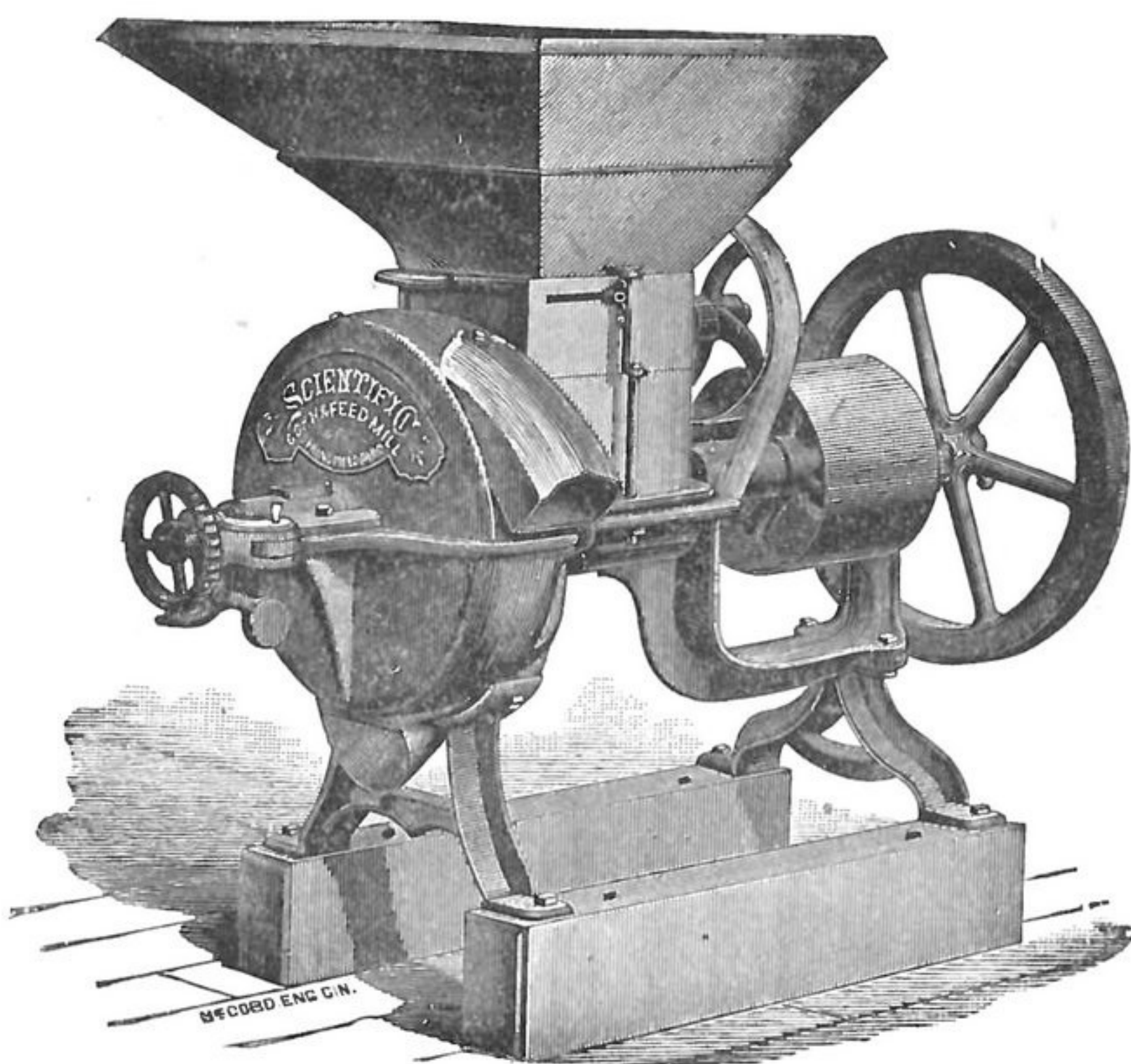
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POSITIVELY THE BEST MILL ON EARTH.

GRINDS PERFECTLY, EAR CORN, SHELLED CORN,
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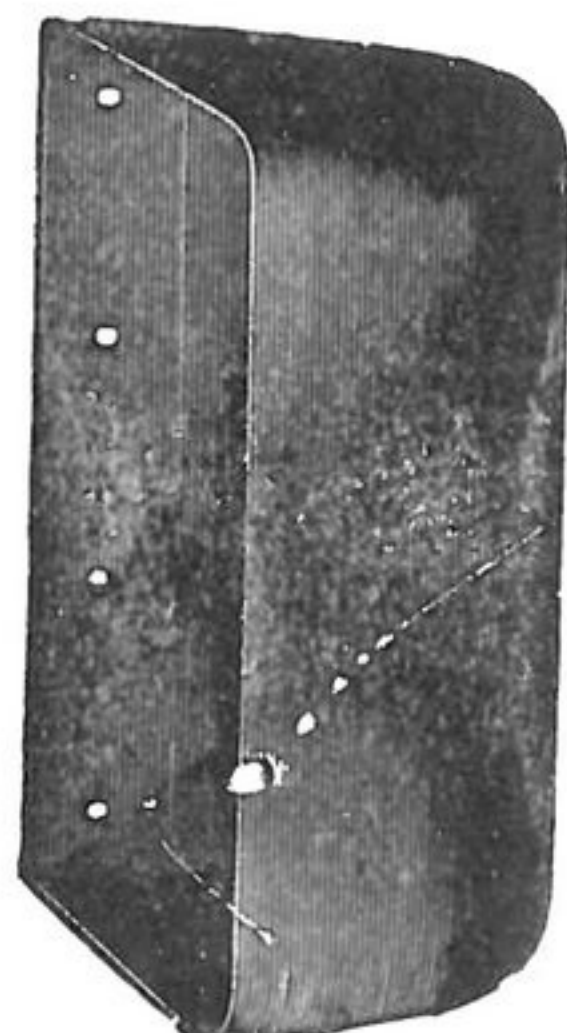
GRINDING PLATES A SPECIAL METAL

*Hard as Steel, Guaranteed to Grind from Five to Eight
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SEND FOR ILLUSTRATED CATALOGUE, PRICES, ETC.

THE FOOS MFG.CO.

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STILL ON TOP.

Perhaps the HIGHEST COMPLIMENT that could be paid the "Salem" bucket is the fact that during the past few years ITS SHAPE HAS BEEN SO CLOSELY IMITATED by other manufacturers as to infringe our patented rights, but experience reveals the IMPERFECTIONS OF IMITATIONS, and we therefore take it as a FURTHER COMPLIMENT to the "SALEM" bucket that some of its old patrons who were *Induced to Try the Imitations have now Returned to the Salem Bucket, thereby Acknowledging it to be the Most Satisfactory.* Don't be deceived by other makes of buckets that are claimed to be "Just as Good." Insist upon having the ORIGINAL AND RELIABLE SALEM BUCKET. All legitimate Salem buckets are plainly marked with the word

SALEM

W. J. CLARK & CO., SOLE Manufacturers **SALEM, OHIO.**

THORNBURGH & GLESSNER, General Agents, CHICAGO, ILL.